The Journal of the American Medical Association

VOL. XXX. CHICAGO, ILLINOIS, FEBRUARY 26, 1898. No. 9.

ORIGINAL ARTICLES.

REPORT AS RESIDENT PHYSICIAN OF THE ISOLATION HOSPITAL (YELLOW FEVER).

Read before the Orleans Parish Medical Society, Jan. 22, 1898.

BY HAMILTON P. JONES, M.D.

VISITING SURGEON CHARITY HOSPITAL AND ASSISTANT DEMONSTRATOR OF CHEMISTRY MEDICAL DEPARTMENT, TULANE UNIVERSITY OF LOUISIANA, NEW ORLEANS, LA.

The instituting of the Isolation Hospital and the choice of its site showed the wisdom of the board of administrators of the Charity Hospital and its officers, which was amply brought out by subsequent developments and results.

The site was an ideal one for the purpose, consisting of a large isolated square of ground, in a very sparsely settled district, containing main and outbuildings well grouped about its center, the nearest inhabited building being fully six hundred feet from any of the hospital buildings.

It is worthy of note that no known case of yellow fever occurred within a radius of ten squares of the hospital during the entire epidemic, and but one occurred at that distance before the establishment of the hospital.

The ambulance, although quartered at the Isolation Hospital, was under the absolute control of the Board of Health and was maintained by it, all patients being delivered to the hospital.

By far the majority of patients were brought in the ambulance, a great many in the city wagon, many, however, were brought in cabs, wagons and in the cars and some even came on foot. Those delivered by the ambulance and city wagon had always seen a reputable physician and were brought out on his diagnosis, the remainder were diagnosed before admission by me, and Dr. Veazie, if present; and accordingly were sent to the detention camp or Charity Hospital, if not suffering from yellow fever; if suffering from the disease, into the wards, or if only suspicious, were sent into a tent used for the reception of cases of that class.

I generally saw each patient and made an examination before removal from ambulance, and supervised the removal. No matter what the physical condition of the patient our invariable rule was to have them transferred from the vehicle in which they arrived, in the recumbent position, on a stretcher, to bed, without allowing them to lift a finger toward their own assistance. Too much stress can not be laid upon the importance of this procedure, and the same method should be pursued at the initial point.

The patient was conveyed directly from the ambulance to his bed and placed therein, clothes and all; he was then stripped and given suitable apparel.

The patient's personal effects, money, etc., of value were disinfected and taken in charge by the Sisters, while the patient's clothes were washed, disinfected and placed in the fumigating room where two three-burner Truax-Greene-Hollister formaldehyde lamps were kept constantly burning.

Dr. Pothier our pathologist, at my request, placed therein air dried strips of cotton cloth which had been dipped in cultures of typhoid, Sanarelli and some germs obtained from the body of postmortem number one, of our series. These strips were subjected to the action of the formaldehyde gas for forty-eight hours; cultures under bacteriologic precautions were then made, which gave splendid growths, after expiration of thirty-six hours; the formaldehyde gas not having apparently affected the germs in the least. Investigations conducted at the Pasteur Institute and published in the *Annales* for Sept. 25, 1896, proved that formaldehyde was a good surface disinfectant for walls, etc., but had no penetrative power. I do not consider it efficient for the disinfection of clothing or anything requiring penetration.

I make these statements after mature consideration, as at an earlier period of this season I advocated its use. The formaldehyde lamps I consider especially unreliable.

The clothes were kept in these fumes until the patient's discharge. In case of death, the clothes were either destroyed by fire, or were given to some needy convalescent.

All infected linen, sheets, pillow cases, towels, etc., from the hospital were at once placed in a solution of bichlorid of mercury 1 to 1000, then boiled and washed. All urine, feces, urinals, night vessels, slop-pails and all utensils, such as sick-cups, thermometers, etc., were constantly disinfected with carbolic acid and solutions of bichlorid of mercury.

The utmost care was taken to destroy with fire all contaminating material capable of such treatment. The wards, halls, etc., were kept scrupulously clean and free from contaminating material, such as old shoes, rags, etc.

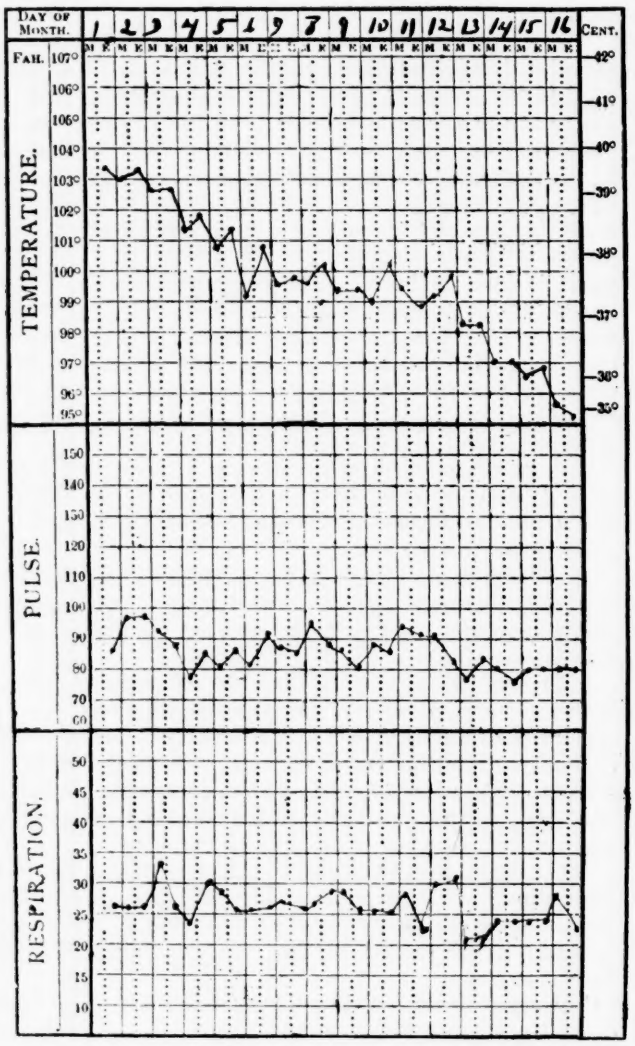
Catheters and surgical instruments were subjected to the usual process of sterilization.

In the cases of persons dying in the wards, the bodies were treated in accordance with the regulations of the Board of Health. The body was at once wrapped in a sheet wet with bichlorid of mercury 1 to 1000, after being divested of all clothing, and was then conveyed to the dead house. All burials whether by the hospital or by friends were done under the regulations of the Board of Health.

Cured patients were discharged after having their clothing and personal property thoroughly disinfected and their own persons given a thorough bath in a warm solution of bichlorid of mercury 1 to 2000, and being wiped off in pure alcohol.

Of necessity no visitors could be allowed at the hospital on their own account, as well as on that of

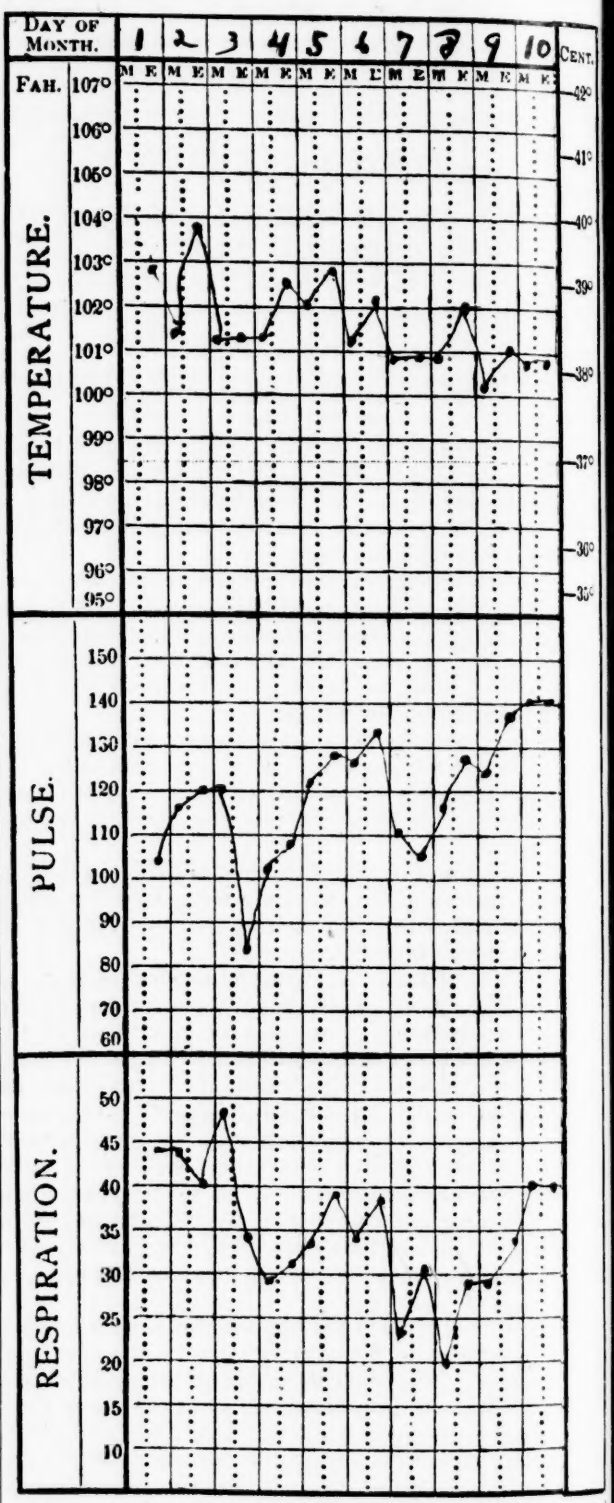
the inmates. Very few physicians were granted the privilege of visiting the institution, the welfare of the patients being our plea, as it is known that too much company, examination and discussion of symptoms is very injurious. Aside from Prof. E. S. Lewis, Dr. J. D. Bloom, Visiting Physician Veazie, and Pathologist O. L. Pothier, the following physicians were granted the privilege of prosecuting their studies in yellow fever in the hospital: Dr. P. E. Archinard, Bacteriologist of the Louisiana State Board of Health; Dr. Bernard Baker of Charleston, representtative of the Medical Society of Charleston; Drs. Geddings and Wasden of the U. S. Marine-Hospital Service.



Composite chart of forty-five cases of yellow fever treated at the Isolation Hospital.

Dr. O. L. Pothier, Pathologist of the Isolation Hospital, especially extended to these gentlemen the facilities of his department and the deadhouse for the prosecution of their labors and the obtaining of cultures.

Dressing rooms for the visiting physicians, ministers, priests, etc., were provided in a building constructed specially for that purpose at the front of the main building. Each visitor, without exception, was required to exchange his outer clothing for a suit of white duck, previously soaked in a solution of bichlorid of mercury which was allowed to dry on it; to exchange his shoes for canvas ones and to wear a cap. At the conclusion of the visit, soap, water, towels and the necessary disenfecting solutions were provided. By the indiscriminate enforcement of these regulations, the danger arising to the community from the visits of physicians to the hospital, was reduced to a minimum.

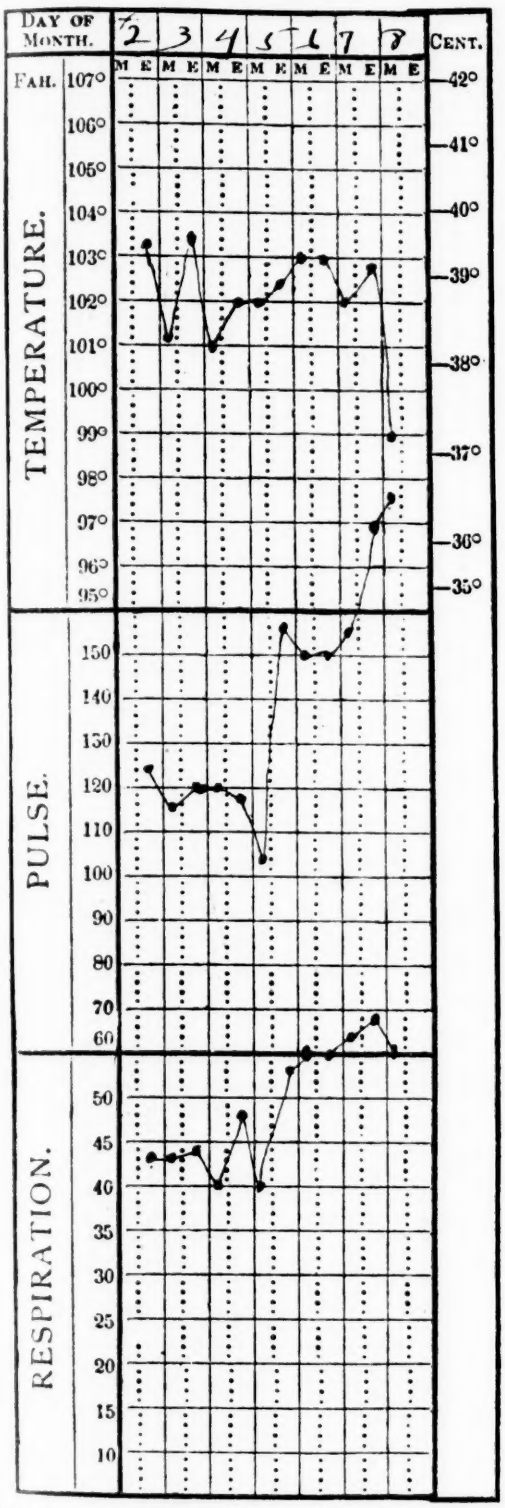


Composite chart of six fatal cases other than yellow fever, treated at the Isolation Hospital.

The pathologic department was of the greatest value and assistance in the intelligent treatment of the cases. In every case the urine was examined microscopically and chemically for casts, albumin, etc., daily or oftener as long as indicated; no small task when the number of cases is considered.

On admission the blood was examined for plasmodia malariæ and for Widal's reaction for typhoid.

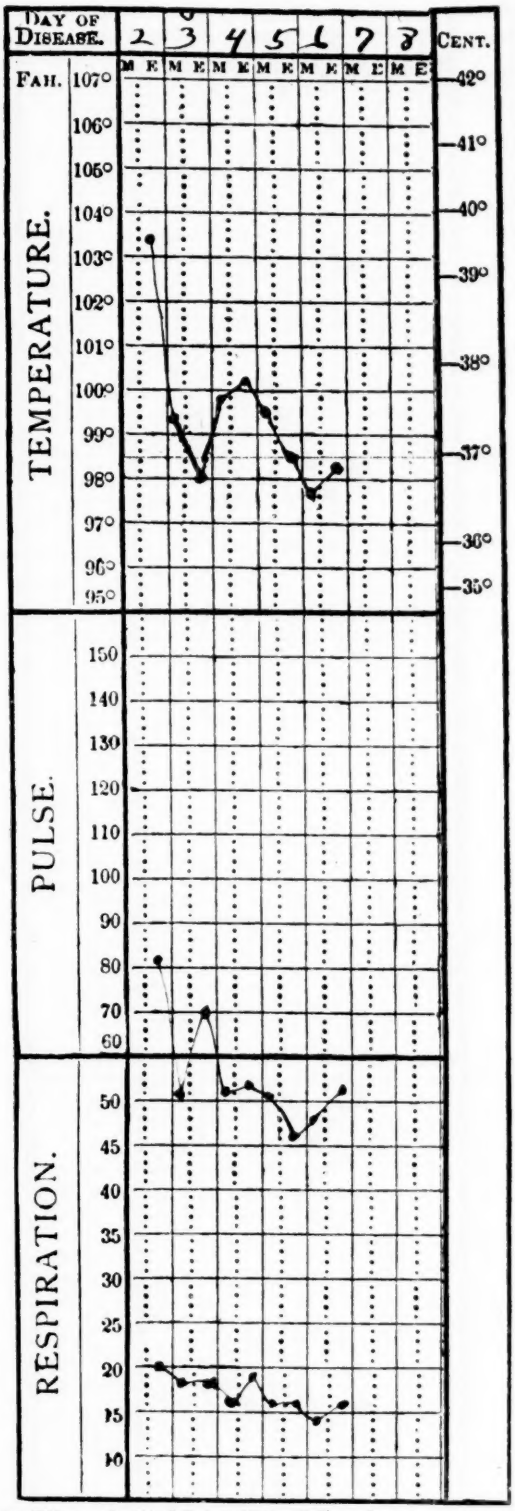
The holding of postmortems was of importance in confirming the character of the disease, aside from familiarizing us with its pathology. The report of



Alma Brown, negro, admitted Oct. 2, 1897. Diagnosis, pelvic peritonitis. General infection of peritoneal cavity and death. Inserted for comparison.

Dr. Pothier will show more fully the scope and value of the work accomplished in his department.

As will be seen by the accompanying list there were 216 admissions with 51 deaths from all causes, or a mortality rate of 23.66 per cent. Of this number 202 were yellow fever, with 45 deaths, giving a mortality rate, in the hospital for yellow fever, of 22.27 per cent, exceedingly favorable when compared with the average death rate of the Charity Hospital for the 43 years preceding 1880 of 50.2 per cent.



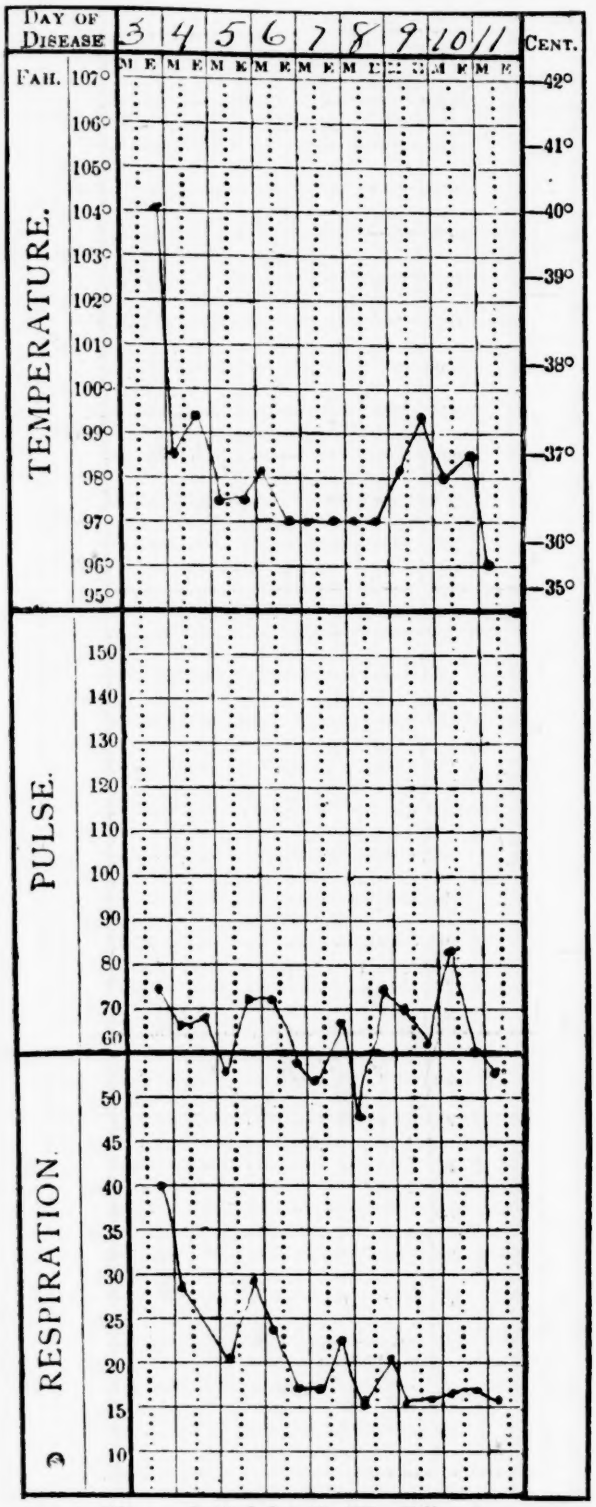
John Kline, admitted Oct. 6, 1897. Yellow fever; recovery. Duration, average case. A typical case; albumin 35 per cent., moist, bile stained casts, all varieties, and bile stained debris.

Sixty-five children under 15 years were treated, with two deaths, 3.07 per cent.

The death rate for New Orleans from yellow fever in 1897 was 15.67 per cent. for reported cases, and in 1878 was 16 per cent. It is reasonable to suppose

that the proportion of unreported cases was the same in each year and that the severity of individual cases was the same.

Of the fourteen cases not yellow fever, six died, giving a death rate from other causes of 42.85 per cent.



Gusceta Mirata, admitted Oct. 25, 1897. Yellow fever; recovery. A typical case.

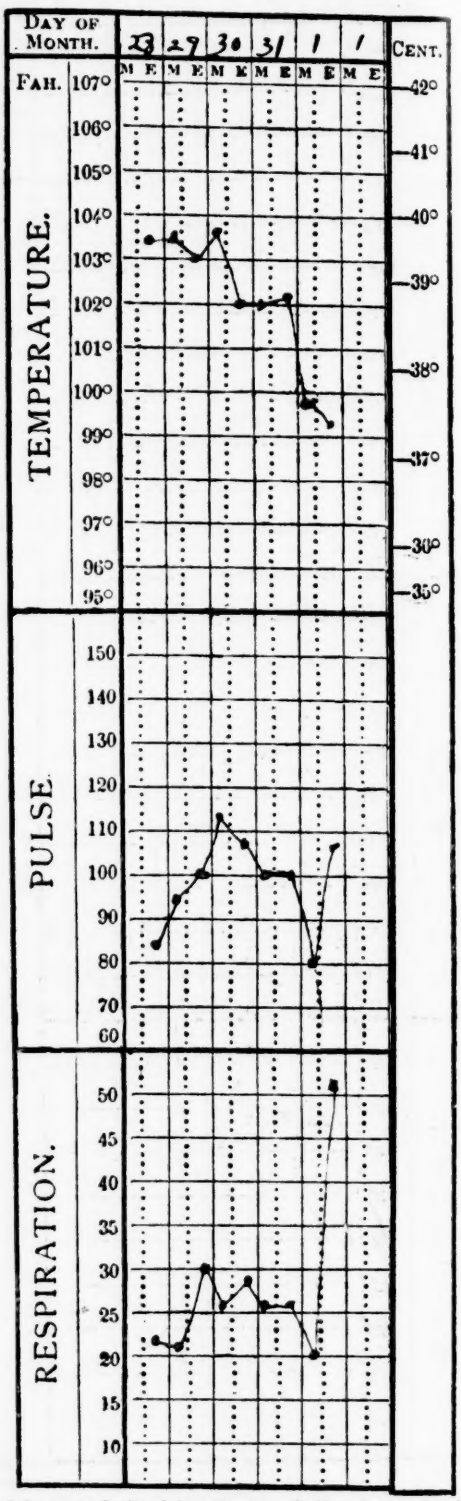
The cases were distributed as follows:

United States, 104 cases, 9 deaths, 8.65 per cent. death rate.

Foreign countries, 98 cases, 36 deaths, 36.73 per cent. death rate.

The great difference in death rates is due to the fact that Americans are better fed, are not as a class habitual wine or beer drinkers, are stronger and more enlightened.

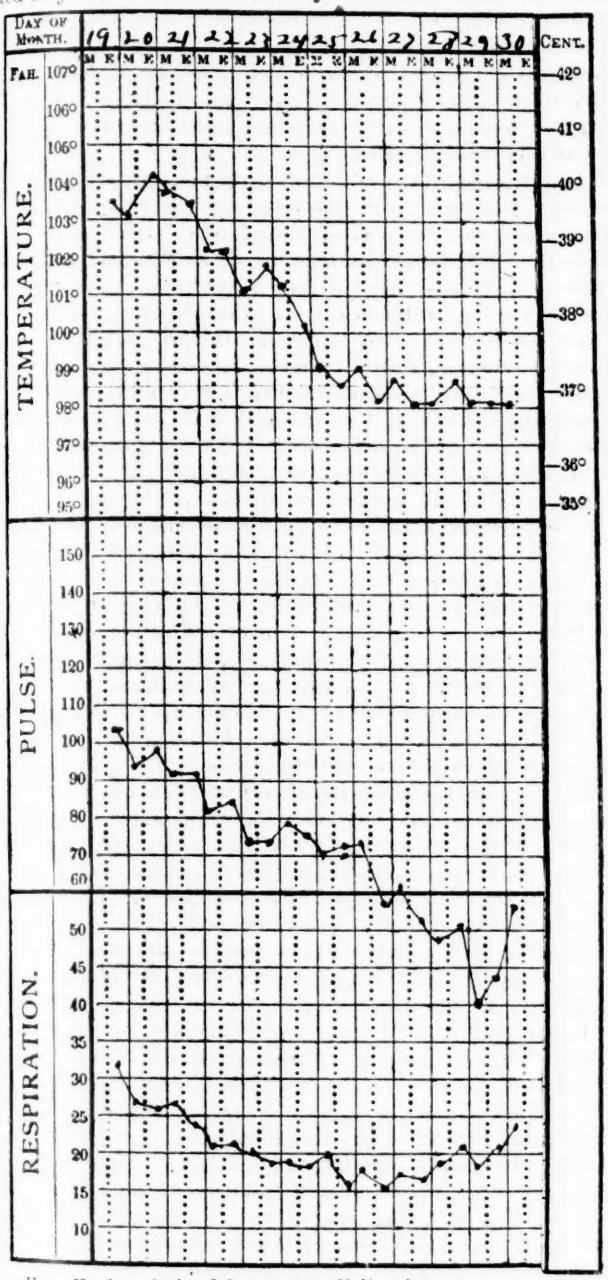
The disease runs a more severe course among unacclimated cases as is shown by the small death rate



Chas. Johnson, admitted Oct. 28, 1897. Yellow fever; death. Severe case in a Norwegian sailor; uremia, black vomit.

among native Louisianians, 5.26 per cent. The more enlightened Americans, as a rule, reported their cases at once, while the foreigners concealed their cases until the last moment, bringing them to us in many instances too late to benefit them by treatment. These

comparative death rates argue more plainly than words the necessity for early transportation, if moved at all, and the great danger of moving patients after the stage of calm has set in. The difference between the mortality in the Isolation Hospital and that of the Charity Hospital, for former years, is due to the careful and unremitting attention given them and to the fact that, in the Charity Hospital, those previously weakened by disease and injuries, were subjected to yellow fever when they were least able to resist

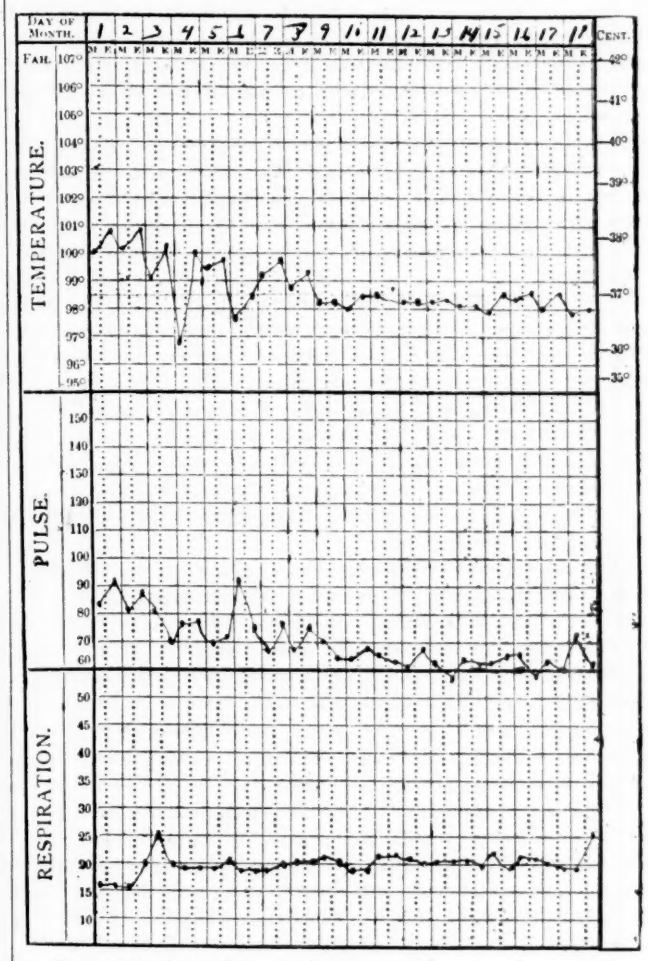


Hugo Hughs, admitted Oct. 19, 1897. Yellow fever; recovery. Severe case, marked jaundice, albumin 75 per cent., bile stained casts; slow and intermittent pulse irregularly suspended.

it, and in consequence they died in great numbers. The wisdom of the board of administrators, if by nothing else, is amply proven by the diminished death rate of the Isolation Hospital. So far as I can judge the yellow fever of 1897 was the same in character as that of 1878; and I have no reason to believe that the death rate would not have been the same in 1897, as it was 1878, had all cases been treated in the Charity Hospital in 1897, as they were in 1878.

As a rule, patients were not admitted until the expiration of the second day of the disease and very frequently much later, especially the foreigners. Nearly all of the cases were of a very severe type as will be seen by the reports of the pathologic department and the clinical records.

The following facts will indicate the character of cases of yellow fever treated: Albumin was almost an invariable constituent of the urine at one time or another, ranging from a trace to 80 per cent., moist, casts, renal epithelium and débris, always bile stained, and other evidences of an acute inflammation of the kidneys were present in 125 of the recovered and in all the fatal cases. Black vomit occurred in twenty-five of the recovered and in thirty-nine of the fatal cases, complete suppression of urine occurred in four of the recovered and in thirty-three of the fatal cases.



Composite chart of twenty five recovered cases of yellow fever treated at the Isolation Hospital.

Uremic convulsions occurred in twelve of the recovered cases and in forty of the fatal.

I do not recollect having seen bile stained casts and débris without albumin being present and in every instance of yellow fever, which came under my notice, they were so stained. In several instances the finding of casts and débris not bile stained led me to suspect that the patient was not suffering from yellow fever, but from some other disease associated with kidney trouble, and subsequent developments confirmed the suspicion. A few days ago I examined the urine of a case giving very suspicious initial symptoms of yellow fever. No albumin, but one hyaline and two granular casts were found, not bile

stained. I reported that I did not consider the case one of yellow fever, owing to this fact. The case developed into one of typhoid fever. We would expect, in very early stages of a case of yellow fever, in a person suffering from any cast producing renal trouble, to find casts not bile stained, which would, as the disease progressed, become bile stained. In any condition of the system associated with casts and bile-pigments in the urine, we would expect to find and have found the casts and the débris bile stained. I consider these observations of the greatest importance in the differential diagnosis of yellow fever and present this new and almost pathognomonic symptom under proper circumstances for what it is worth. The fact has been observed by Prof. Joseph Jones and others that the casts in yellow fever were bile stained; but the fact that this was of diagnostic importance has never been brought out before, so far as I know. Unfortunately I have not as yet been able to make any comparative observations on the presence or absence of the bile-pigments in the urine of dengue cases.

Hemorrhage from the bowels occurred in seven of the recovered cases and ten of the fatal; pneumonia, in one recovered case and one fatal; diarrhea in one recovered case and dysentery in two. Three recovered cases were associated with pulmonary tuberculosis.

The following complications were found in the recovered cases: paralysis two cases; delirium tremens two cases; peritonitis two cases; hysteria one case; round worms vomited by children twice.

The following is an analysis of the condition of the forty-five fatal cases on arrival: nineteen were moribund and died within a few hours of admission; thirty-three had complete suppression of urine; twenty-seven had black vomit before admission, and five, hemorrhage from the bowels.

Postmortems showed that over 40 per cent. of these cases suffered from some chronic trouble, either of kidneys, liver or heart.

These figures will explain in a measure the death rate of this institution as compared with others, and that of the city. It must also be borne in mind that every case was admitted here, no matter what the physical condition, in many instances after being refused admission elsewhere.

Bearing in mind the very important fact that yellow fever is a self-limiting disease and one that can not be arrested by drugs, our treatment was almost entirely symptomatic, each case being treated entirely on its own merits, our effort being directed rather to the prevention of bad symptoms than to their cure.

Every case should be and was regarded as serious and on account of the pathologic changes induced in the heart, liver, kidneys and other organs, etc., was given the closest medical attention, and most careful nursing. Since so many of the symptoms are due to the arrest of the functions of the skin and kidneys, efforts were directed to promote the activity of these organs during the progress of the disease, stimulating diuretics were avoided. The free use of hot mustard foot baths and hot cans, the regulating of the temperature of the room, large draughts of cream of tartar, lemonade, orange leaf tea, water, plain and carbonized, all tended to promote diuresis and diaphoresis.

Absolute rest in the recumbent position was maintained, the necessity for which was indicated by the cardiac weakness.

Pain in the head was relieved by phenacetin and the ice cap, while pain in the back and limbs was relieved by chloroform liniment, mustard plasters, etc.

Efficient but gentle purgation in the first stage was always beneficial, 0.52 or 0.65 grams of calomel followed by a dose of casto oil, Seidlitz powder or salts, usually being sufficient. It was observed that as a general rule those patients who received this treatment before admission, usually did better than those who had not. Purgatives, as a rule, were not administered during the stage of depression unless specially indicated by uremia or some such trouble, when calomel, in 0.32 or 0.65 gram doses, was generally given.

Where the stomach was overloaded with food in the early stages an emetic was administered with benefit, but it was rarely required.

Hyperpyrexia was treated by the administration of one or two doses of phenacetin, rarely more than two doses were ever given, reinforced with caffein and brandy. The administration of hot mustard foot baths, hot drinks and the application of hot cans to the patient, by inducing free perspiration, were efficient agents frequently used for the reduction of temperature. Sponging the surface under the cover with tepid water and alcohol, Florida water or vinegar, had a soothing effect on the patient and very frequently was efficient. The injection of large quantities of ice water into the rectum not only had an exceedingly prompt effect on the temperature, as a rule, but served to flush out the kidneys and promote their functions.

Arrest of the functions of the kidneys owing to the gravity and nature of the alterations in their structure is beyond the relief of drugs. However, as the urine was always intensely acid it was our universal custom to administer an alkali in one form or another, usually a mixture of bicarbonate of soda 0.65 grams to the dose in peppermint water. This not only acted as an anti-acid but was a very valuable gastric sedative and anti-emetic.

Much good was accomplished and the functions of the kidneys restored by the injection, high into the rectum by means of the rectal tube, of a pint or more of ice water, if indicated and the patient could endure it, or high enemas of a mixture of acetate of potash grams 2, infusion of digitalis 14.8 c.c. and water to make 1 liter; these were given every three or four hours as indicated. The dose of digitalis was regulated to fill indications.

Diuretin "Nolle" was used, but so far as I observed, without success. Fluids freely were our main reliance and were given the patients on the slightest pretext.

Dry cups were frequently used over the loins and kidneys, followed by the application of sinapisms; this procedure was in many cases very effective.

Retention of urine was a very common condition and was relieved as necessary by the catheter.

A few blood cells were occasionally found in the urine and hemorrhages from the urethra occurred in two cases, but in none could the quantity of blood present in the urine account for the quantity of albumin present. All varieties of casts were found. Complete suppression of urine is an almost invariably fatal symptom, and suppression either partial or complete is the chief cause of the hemorrhages from the stomach and bowels.

The following causes also contribute toward the productien of black vomit, which in itself, is salutary in effect and seems to be rather beneficial than oth-

erwise, it being an effort of nature to rid itself of retained poisons and if it were not for the grave pathologic condition with which it is associated and of which it is more a symptom, would undoubtedly prove to be the turning point in many a case of yellow fever.

The irritation of the gastro-intestinal mucous membrane, its congestion and fatty degeneration and the degeneration of the walls of the smaller blood vessels and capillaries is an identical process to that which occurs in almost all of the parenchymatous structures of the body, such as the liver, kidneys, etc.

Persistent vomiting and threatened black vomit were treated very much alike. Iced drinks, such as milk, lime water, lemonade, etc., were given, large quantities of cracked ice swallowed by the patients and ice-bags applied to base of neck, throat and epigastrium; soda and peppermint were also used with advantage, and in persistent cases of vomiting or hiccough codein 0.016 to 0.032 gram hypodermatically, or cocain 0.032 to 0.65 gram by mouth, would give the patient a little much needed rest. Opiates and depressing agents were used with great caution.

During the stage of depression alcoholics were used with caution, iced champagne appearing to be the best form, but in many instances, for the control of vomiting, etc., iced seltzer water or any other carbonized drink answering just as well. During the initial stages unless specially indicated alcoholic stimulants were abstained from.

Black vomit was best treated by absolute rest of the stomach, nothing being given by the mouth, nourishment and fluids being given by rectum and medication hypodermatically.

Strychnia, digitalis, digitalin, brandy, etc., were all freely used in the treatment of the disease hypodermatically when indicated, as was atropin, in suitable doses, which was especially useful where there was a cold clammy skin or depressing perspiration associated with sub-normal temperature.

The very slow and irregular pulse of the stage of calm was aided by the above measures. So long as the pulse ran a moderately slow course all went well, as a rule, and, on the other hand, an increase in the frequency of the pulse with diminished force was generally observed near the fatal issue, with a fall in the temperature sometimes as low as 95 degrees F., when there was much free hemorrhage from the stomach or bowels. Owing to the impaired functions of the liver and intestines, the extravasated blood into the gastro-intestinal tract was very prone to putrefactive changes and was a source of much of the secondary fever. The danger arising from this source was in a measure obviated by the use of intestinal antiseptics, such as the sulpho-carbolate of soda, salol, etc.

I practiced infusion with a pint or more of hot saline solution in four cases, three of which were comatose from uremia and had had black vomit and hemorrhages from the bowels, and one of which was comatose from uremia alone and had lost no blood. This case was bled through the median cephalic vein, first to the extent of eight ounces and was then infused with twenty-four ounces of a hot saline solution. I thought that these procedures rather accelerated the fatal issue.

Hypodermoclysis was practiced in five cases, none of which recovered. About twelve ounces of properly prepared and sterilized solution was injected very slowly into the loose cellular subcutaneous tissues of the back and sides, every eight or twelve hours. As this is a less formidable procedure I prefer it to infusion. I think that I used these agents at too late a stage of the disease, all of the cases having had convulsions and being moribund.

Delirium and uremic convulsions were treated by attending to their causes. Sedatives such as the bromids and chloral were given cautiously when indicated. Quinin was not administered unless the malarial organisms were found in the blood, which occurred in about sixteen cases. Other complications such as pneumonia, diarrhea, etc., were treated as the condition of the patient permitted, but generally as little as possible.

The diet consisted of liquid food at regular intervals during the entire course of the disease, milk and lime water, beef tea, chicken tea and the like being our main articles of diet.

But these were given at such intervals that our treatment was practically a starvation one. There was a constant cry from the patient for food. After the stage of calm was safely passed the diet was cautiously increased.

Fifty-one postmortems were made, of which forty-five were from yellow fever and six were from other causes, in every instance confirming the diagnosis made by us. In the yellow fever cases the following postmortem conditions were generally found.

The pupils were generally widely dilated and the conjunctivæ and sclera jaundiced. The skin of the face and upper portion of the trunk was generally of a golden-yellow color; while that of the dependent portions presented a mottled purple and a yellow ecchymosed appearance due to postmortem hypostasis.

On section the blood was dark and fluid, becoming bright scarlet on exposure, whilst all the tissues were found bile-stained, even the brain substance.

Intense congestion of the blood vessels of the thoracic and abdominal viscera was observed.

The pericardium was intensely congested, especially about the base of the heart, as were the capillary vessels covering the aorta and other large vessels in the neighborhood. This conjestion was more marked than in any pathologic condition I have previously seen, and was not present in the six postmortems held on the cases not yellow fever.

The heart was found filled with dark fluid blood, and the muscle softer and paler than normal, due to a condition of acute fatty degeneration. The blood as has been observed by Jones and others, has its fibrin very much diminished.

The lungs presented extreme congestion of the dependent portions. Circumscribed hemorrhages ranging in size from that of a pin point to that of a pea and larger, were frequently found in all the organs.

The mucous membrane of the stomach was intensely congested, softened and eroded; often containing large quantities of black-vomit, where none had been vomited before death. This was of an alkalin reaction due to the presence of ammonia, resulting from the antemortem decomposition of urea. The presence of the ammonia according to the observations of the late Professor Jones was easily demonstrated by holding over the opened body a rod which had been moistened in hydrochloric acid forming white clouds of ammonium chlorid $NH_3 + HCl = NH_4 Cl$. Microscopically the black-vomit presented blood corpuscles, gastric epithelium, bacteria, etc.

The duodenum, as a general rule, presented the above conditions intensified. This condition, however, in the majority of cases extended only down to the opening of the common bile-duct, below which the congestion was not so well marked. The intestines were dark in color and distended with gas; frequently the mucous membrane was so congested as to present the appearance of being raw. They frequently contained large quantities of black altered and decomposed blood, showing the necessity for the use of intestinal antiseptics.

The liver was generally yellow, dead-leaf or boxwood in color, due to fatty degeneration, bloodless; in deaths occurring early in the disease the liver was found to be intensely congested and yellow. Where yellow fever was engrafted upon chronic malaria the characteristic lesions of both diseases were found.

The gall bladder was generally flaccid and empty, being over-distended in only one case, where an impacted gallstone was found. The gall bladder sometimes contained a clear, albuminous, mucoid liquid, free from bile, and in some cases was filled with dark grumous blood.

The spleen was generally slightly enlarged, the parenchyma being generally normal.

The kidneys were generally of a brownish yellow color, larger and softer than normal, loaded with fat and were generally intensely congested. The capsule was generally adherent due to former troubles, while the cortex was swollen and fattily degenerated. The fatty degeneration first and generally most prominently showing itself in a line close to the bases of the Malpighian pyramids, as this sign was first noticed by our pathologist, I think it may with all propriety be safely and properly called "Pothier's sign."

The kidneys presented all the evidences of an intense acute inflammation. Putrefactive changes as a rule set in early and progressed very rapidly, associated with rapid disintegration of the blood. Blood taken from the living subject also disintegrated rapidly.

Complete clinical histories and records, pathologic reports, postmortem reports of all autopsies, accompanied by results of microscopic observations, together with the preservation of the microscopic slides and bacteriologic preparations, will constitute one of the most valuable and complete series of reported cases of yellow fever ever made.

Upon the completion of this work it will be placed in the archives of the Charity Hospital, where it will be at the disposal of the medical profession.

In conclusion I would state that no material advance has been made in the treatment of yellow fever; that the clinical and pathologic observations, microscopic and otherwise, both on the blood and tissues, of such men as the late Prof. Joseph Jones have been but confirmed.

The only really new work done was in the examination of the blood for malarial organisms. Widal's re-action for typhoid and yellow fever (Sanarelli's bacilli), in these cases; blood counts were also frequently conducted.

No great changes were found either in the number or structure of the corpuscles. Blood counts and examinations for the malarial organism were always made immediately after obtaining the specimens, within fifteen minutes, while the "Widal's reactions" were made when convenient. The work in this line conducted by the pathologist of the hospital, Dr. O. L. Pothier, as yet not being in readiness to report upon. The bacteriologic work undertaken by the above mentioned gentleman, and Dr. Pothier, Dr. Mioton and myself, while not original in any but a few points, still is along a new line of intense and absorbing interest to the investigator and of vital importance to these affected by the ravages of yellow fever.

So far as I can gather from Drs. Archinard and Pothier, the two principal workers, and so far as my own observations extend the prospects for the substantiation of the claims of Sanarelli of Montevidio, are good.

The Isolation Hospital was open in all about two and a half months, closing about December 14, 1897, and during this entire time the health and spirits of the entire corps were of the best.

No case of yellow fever was traced to the hospital, in spite of the fact that three of the Sisters had not had it. The ambulance superintendent had never had it, and was frequently covered with black-vomit. Fourteen cases passed through the wards who did not have the disease, none of whom contracted it, and of the army of prisoners engaged in destroying the infected buildings and in general cleaning up, numbering in all considerably over a hundred persons, not one contracted the disease.

A TYPICAL CASE OF YELLOW FEVER ILLUSTRATING THE VALUE OF WIDAL'S REACTION WITH THE BACILLUS ICTEROIDES.

BY OTTO LERCH, A.M., M.D., PH.D.

NEW ORLEANS, LA.

Frank, age 30 years, native of England, has resided in Louisiana during the past fifteen years. He is of florid, healthy complexion, weighs 160 pounds and has been employed in a Turkish bath establishment for several months, attending in the hot room and giving massage to the frequenters of the establishment. During the recent epidemic of yellow fever he has been employed as a nurse for patients stricken by the disease. During all this time and up to the 21st he has been in perfect health. On the 22d, at 8 P.M., he was seen by the writer and gave the following history: That on the day previous he was taken with a headache and general malaise, especially soreness in the limbs not severe enough to keep him from his daily occupation in the hot-room. He thought he had no fever on that day. On the morning he went from home to his work, a distance of about fifteen blocks, and though not feeling well, worked till the time he called the writer. He was stretched upon a cot, was very restless and complained of severe pain in the head, back, epigastrium and extremities. There was nausea and congestion of capillaries, especially of face; conjunctivæ were injected; tenderness upon pressure over epigastrium; tongue coated in the center; edges and tip of tongue red. He had urinated during the day and described the urine as being scanty and of high color. His intellect was clear; a slight chill had preceded the rise of temperature to 105; pulse 113; respiration 26. A hot foot-bath and a calomel purge 0.39 gram in 0.065 gram doses every hour, followed by a saline cathartic, were administered and the following powder given twice during the night: phenacetin 0.2, codein 0.02 and caffein 0.065 gram. The hot foot-bath, ice to the head and the above powder relieved him considerably, and on the morning of the 23d he returned to his home. At 8 A.M. his temperature was 102, pulse 80, pain over the epigastrium very severe and frequent vomiting. During the night he had taken iced seltzer water in small quantities at frequent intervals. This, however, though mixed with lime water, had not stopped the vomiting. He thought that it had lessened the nausea. The urine was scanty and contained about 3 per cent. of albumin and some casts of the uriniferous tubules. The vomit consisted almost solely of mucus tinged with bile. In the evening I found the temperature had risen to 103½, whereas the pulse had remained stationary. The vomiting had stopped, nausea lessened; he complained still of soreness, but not of pain except over the epigastrium. On the 24th, temperature 103½; pulse 80; the patient

appears and feels much better than on the previovs day; evening, pulse 80; temperature 102½; vomiting has stopped and he rests better. On the 25th, temperature 100; pulse 70; patient feels well, is hungry and wants to go to work; evening, temperature 101; pulse 70. After this date the patient was seen by a colleague who reported that on the 26th he found temperature and pulse normal and the patient feeling well, and he returned a few days later to his accustomed work.

On the morning of the 23d blood was taken with due antiseptic precautions from the tip of finger, and a few hours later examined under the microscope. It had almost the appearance of colored water, the red blood corpuscles being to a large extent dissolved. The Widal reaction with the bacillus icteroides of Sanarelli was then applied and gave the following results: In a dilution of one to ten arrest of motion of the bacilli and agglutination was complete within a few minutes, and in a dilution from one to forty the agglutination and arrest of motion of the bacilli took place within twenty minutes. The test was made with a culture obtained from Sanarelli, and the reaction was submitted to Drs. P. E. Archinard and B. S. Woodson.

The foregoing case shows several points of interest. It is a typical case, though occurring after the epidemic had subsided. From the onset of the disease we can observe the non-correlation of the lines of temperature and pulse, one of the characteristic features of yellow fever, its continuity to the fifth day with but a slight remission on the second day of the disease proves it a fever of one paroxysm, the maximum elevation of temperature is attained on the evening of the first day 105 degrees in the mouth below the tongue. On the morning of the second day the temperature registers 102, rising in the evening to 103⅘ degrees, and from this time shows a steady fall, till on the morning of the fifth day the temperature has reached normal. The pulse on the commencement of the attack was rapid, 113 and full, falling to 80 beats on the morning of the second day and remaining stationary the second and third days; its frequency falling to 70 on the fourth day. If we observe that on the second day a larger amount of albumin is found in the scanty urine, a symptom so constant in yellow fever that it is almost generally accepted as one of the pathognomonic features of the disease, and if we further note the congested face, pain in the epigastrium and characteristic vomit, headache and soreness in the extremities, the complete anorexia we can not doubt the diagnosis.

It seems strange that a man who has been almost daily and freely exposed to the cause of the fever during the epidemic, without being attacked, should succumb after further exposure to the cause had almost become an impossibility, the city having been practically free from the disease for several weeks. It seems that his system gradually becoming saturated with the cause of the fever had acquired a certain immunity, which it lost after a spree or some other weakening cause of which the patient does not give a history. That such an immunity can be acquired we have daily occasion to observe in this country where everybody is constantly exposed to the malarial organisms, and yet be subject to attacks of the disease only after a similar cause. More than this it is well known that men living in perfect health for years in a malarial country, suffer from malarial attacks when changing their abode to a country free from this disease, proving conclusively that they have carried the plasmodia in some form perhaps through a number of years without inconvenience. The demand made upon the system to adapt itself to new surroundings, to a new mode of life is often sufficient to cause malarial attacks.

Another point of interest in this case is, that the occupation of the patient in the Turkish bath, where he had to be a large portion of the twenty-four hours, in the hot room with a temperature of 160, was not sufficient to kill the bacilli, which according to Sanarelli and the recent observations of P. E. Archinard in collaboration of R. S. Woodson and J. J. Archinard, are the cause of the disease. Though the blood temperature is not raised, with each breath taken in the hot room, the heated air is brought in direct contact with the blood and the heat is immediately communicated to the tissues. If the Turkish bath can not be considered a prophylactic agent in yellow fever it may alone or in connection with the steam bath, serve as a prophylactic in other infectious diseases.

The blood, six hours after extraction presented almost the appearance of colored water.

Joseph Jones ("Treatise on Yellow Fever," p. 185) states: "The changes of the blood appear to be continuous from the time of the introduction of the poison to the fatal termination." (P. 186) "In some cases there is an almost entire disappearance of the fibrinous element," and (p. 188) "rapid dissolution of the colored corpuscles after the blood is abstracted from the body either during life or after death. The rapid alteration of the investing membrane of the colored blood corpuscles in the blood of yellow fever, after the abstraction of the blood from the vessels appears to be intimately related to, if not absolutely dependent upon, the physical and chemic action of the biliary and urinary constituents retained in the blood. During life the blood corpuscles in virtue perhaps of their vital endowments and of their relations to the oxygen received during respiration, resist the solvent action of the bile, urea and ammonia, but after the blood is abstracted and loses its vitality and is exposed in vessels these agents exert their characteristic action."

At the present day nearly all observers agree that the blood of yellow fever patients presents a normal appearance, yet others maintain that in some cases the blood shows a decided tendency to dissolution. This discrepancy of opinion may be due to the time of observation after extraction of the blood from the patient. I have no doubt that in this case the changes seen were postmortem, though I had no opportunity to verify this.

Sternberg ("Report on the Etiology and Prevention of Yellow Fever," p. 147) says that "the blood in yellow fever has been described by many observers as 'completely disorganized' as to its histologic elements. This is a mistake, as shown by the numerous micro-photographs made by the writer while at Havana in 1879, from the blood of cases near a fatal termination." The same author and others say that the prognosis in a case of yellow fever should be guarded. In the case under consideration the temperature on the first day rose to 105, and 3 per cent. of albumin was found in the urine on the second day. Yet the case goes on without any complication to recovery within five days, and soon thereafter the man returns to his usual occupation and has been attending to it since without interruption. Quoting from the above report we find in a series of cases in which a complete and careful record had been made by G. Sternberg that when the temperature rose to 105 and 106 out of thirty-six cases, twenty-two died and when the temperature rose to 104 and 105, out of eighty cases twenty-four died.

Though cases which appear mild at the outset may

assume a grave character we see that in this instance the reverse was the case.

The prompt agglutination of Sanarelli's bacilli and their arrest of motion in the hanging drop culture contaminated with the blood of this patient may prove of the highest value in the future and allow an early recognition of the dread disease, permitting a quarantine when it is yet of value to limit the spread of the fever.

LUPUS VULGARIS—ACUTE ECZEMA—CHRONIC ECZEMA—PSORIASIS.

A Clinical Lecture to Members of the AMERICAN MEDICAL ASSOCIATION, delivered in the Medico-Chirurgical Hospital of Philadelphia, June, 1897.

BY JOHN V. SHOEMAKER, M.D., LL.D.

PROFESSOR OF SKIN AND VENEREAL DISEASES IN THE MEDICO-CHIRURGICAL COLLEGE AND HOSPITAL OF PHILADELPHIA.

I have no fear of dwelling too much upon specialism because I find in numerous cases that the visible cutaneous affection is but symptomatic of some morbid functional or organic condition of the digestive organs, the blood, the kidneys, the genital apparatus or the nervous system. Consequently, in order to cure the disease of the skin I must apply the same diagnostic and therapeutic principles by which every general practitioner is guided. Dermatology is linked in the closest bonds to general medicine. This is a fact upon which I constantly insist.

LUPUS VULGARIS.

The first patient I introduce to you is a young farmer, 28 years of age, who entered this hospital a few days ago on account of an extensive and disfiguring eruption upon the face. The disease began fourteen years ago on the bridge of his nose and, as far as he can remember, in the form of scales. In the course of an indeterminate time these scales fell, there was some blood-stained fluid discharge and an indolent ulcer left. After a time larger and thicker scales formed upon this surface. The progress of the disease was attended by itching and pain. In the early course of the affection, during his boyhood, the nose was accidentally scratched by a piece of glass and this injury, he thinks, aggravated the disease, and caused it to spread with greater rapidity. Gradually the lesions extended from the nose to both cheeks and also along the nose to its tip. For the last eight years the diseased area has been of about the same dimensions as at present. The intensity, however, is not always the same. There are periods of exacerbation and improvement. The malady is generally less active in summer than in winter. There are other morbid foci upon the left cheek and chin. These began at about the same time as that upon the nose and have pursued a similar course.

At the present time the disease occupies the nose from root to tip, extending outward upon each cheek, forming some resemblance to the figure of a butterfly with outspread wings. Upon the left side a thin streak of the same character dips downward at a right angle from the tip of the wing to the corner of the mouth. Over the zygomatic process and malar bone of the right side is an oval patch of the same aspect, its long axis being in the vertical direction. Upon the right side of the chin, its center corresponding to a line dropped from the corner of the mouth, is another oval patch, the long axis of which is directed parallel to the lower border of the maxilla.

There are no other lesions upon the body than those enumerated. The patient's general health has been good until within the last few days, when he began to be troubled with pain in the lower limbs and debility. The difficulty seemed to be of a rheumatic character. Until this attack he had been able to do his farm work. He never had rheumatism before this time. The man's mother died of phthisis. He thinks that a brother also died of consumption. He does not know of any other case of skin disease in his family.

This case is of interest as regards the persistence, inveteracy, location and contour of the lesions. He has given us his history as far as he is able, but there is one important point which is omitted from his account. Upon examination I find around the borders of the lesions a number of small yellowish red papules. These vary somewhat in size, though none are large. They are moderately firm to the touch; I can distinguish that they originate in the corium.

The early period of life at which this affection began, its very chronic course, without much deterioration of general health, the intervals of improvement, and above all, the occurrence of spots of cicatrization exclude the hypothesis of epithelioma. Nor is syphilis likely to attack a country boy of 14 years. It is sadly true that children may become innocently infected if exposed to contamination and that now and then "tardy congenital syphilis," as it has been called, first manifests itself about the age of puberty. This case, however, does not correspond to the history of syphilis. A case of syphilis of fourteen years' standing would have given rise to much more extensive and destructive lesions than are here present. There would have been deeper ulceration and bone would have been involved.

The man is a sufferer from lupus vulgaris, which ordinarily commences in childhood, affects the face by preference, is characterized by spontaneous absorption of some papules or tubercles with ulceration of others and cicatrization in certain spots. Thus in a case of lupus carefully examined we may often witness the simultaneous existence of different stages. Here we may perceive stationary, or nearly stationary, papules and tubercles. Some of the lesions fade away and disappear, while others ulcerate. At the same time we may observe evidence of former ulceration in the form of scars. These peculiarities are distinctive of lupus.

Lupous ulcers are not usually very deep, but in some instances they may penetrate the subcutaneous tissue and even involve the bone, proving as malignant as carcinoma. In other cases, an old lupus has undergone transformation into carcinoma.

The edges of lupous ulcers are soft, the surface is red, smooth, and early bleeds. It often becomes covered with thin scales or crusts. The ulceration is at times attended or followed by abundant papillary outgrowths, this form being known as lupus verrucosus. The disease occasionally begins upon a mucous membrane.

The butterfly or saddle-back contour is much more frequent in lupus erythematosus than in lupus vulgaris, though I frequently observe it in the latter affection. The course of lupus erythematosus, however, is not evidenced by papules, tubercles and ulcers, and it is commonly surrounded by comedones and patulous sebaceous ducts. Erythematous lupus develops later in life than lupus vulgaris.

There has been much discussion of late years concerning the tuberculous origin of lupus. The prevalent opinion ascribes its causation to the bacillus tuberculosis; yet these are confessedly present in small numbers and I have often searched for them in vain. It is true that lupus occurs in a certain proportion of patients affected by pulmonary tuberculosis in those who, like the present individual, belong to tuberculous families or in persons who become subsequently attacked by consumption of the lungs. Such cases, however, are greatly in the minority. On the other hand, lupus does not resemble clinically other undoubted forms of tuberculosis of the skin, and most patients afflicted with lupus possess fair general health.

The successful treatment of lupus is not an easy task. It usually demands the utmost patience in both the subject and the physician. The hygienic surroundings should be of the best and we should aim to correct any constitutional disorder which may be present. I am no advocate of severe local methods as I have frequently seen them followed by aggravation of the malady. Scarification, cauterization and curettement are procedures which I have almost entirely abandoned. I much prefer to begin with milder applications combined with appropriate regimen and internal remedies. If these prove without avail we may then cautiously resort to more heroic measures. In this case I have ordered that the diseased surface be painted every third day with pure carbolic acid. This substance has the valuable properties of coagulating the albumin of the parts, sealing up the blood and absorbent vessels and stimulating repair. In addition to these applications the following ointment shall be kept constantly applied:

℞.	Hydrargyri chloridi mitis	gr. xv	97
	Creosoti	♏ x	62
	Bismuthi subnitratis	ʒj	39
	Unguenti zinci oxidi benzoati	ʒj	31

M. fiat unguentum.

On account of the family history of the man he shall be placed upon an alterative course, consisting of 1 drachm (3.7 c.c.), gradually increasing to 2 drachms (7.4 c.c.) of syrup of the iodid of iron thrice daily, together with an equal quantity of cod liver oil.

ACUTE ECZEMA.

This man of 25 years of age, has been troubled for a week by a very extensive eruption. Commencing on the scalp it has spread to the face, neck, trunk and extremities until at the present time there is scarcely a portion of the body entirely free from the disease. The exanthem is attended by excessive itching, burning and smarting. The general health is said to be unaffected. The bowels are constipated. His appetite has not been at all impaired.

The rash exhibits different types upon different parts of the body. Primarily it consists of small vesicles, filled with a pearly white fluid and situated upon an erythematous base. After a day or two they rupture and discharge their contents, which dry into yellowish crusts of greater or less size and thickness, according to the number of vesicles which have aggregated before rupture. Upon the back of the neck the crusts are particularly large, thick and numerous.

This can be nothing else than acute eczema of the vesicular type. Of this phase of the malady it is, indeed, an apt example. Closely grouped small vesicles on an erythematous base with heat, swelling, burning, tingling and itching signify eczema. The erythema, heat and swelling might be suggestive of dermatitis, but we have here no history of direct injury to the skin. Dermatitis herpetiformis is rare; the patches of erythema are of a dark red or purplish color, and vesicles vary greatly in size, while bullæ and pustules are often present. Herpetic vesicles do not rupture. Those of herpes zoster follow the course of a nerve and are often accompanied by sharp pain. In pemphigus we observe large bullæ or blebs.

Though vesiculation is the prominent characteristic of one variety of eczema, yet many cases run their course almost or quite free from this manifestation and require to be classed as erythematous, papular or pustular eczema according to their predominating lesions.

Acute vesicular eczema may be accompanied by constitutional symptoms so severe as to cause us to suspect the development of some eruptive fever. Such symptoms have been absent in this case notwithstanding the extensive surface involved. There have been no chills, fever, headache, backache, anorexia or nausea. The tongue is coated however, and the bowels constipated. As there has been no source of external irritation the disease in this instance is, in all probability, to be ascribed to imperfect digestion. This is a very common cause of eczema especially when, as often happens, the patient has a susceptible skin. Certain persons are predisposed to eczema as others to catarrh of mucous membranes; eczema has been termed catarrh of the skin, as affecting chiefly the mucous layer. Gastro-intestinal catarrh may be reflected upon the skin as acute or chronic eczema.

In treating such a case as this, therefore, it is important to avail ourselves first of the eliminative function of the bowel by administering a brisk purge. This should be followed by remedies which will improve the morbid condition of the alimentary tract and strengthen the digestive power.

Coincidently with such internal treatment we should combine emollient applications to the skin. Stimulating substances are inappropiate for topical use in acute eczema. They serve only to aggravate the disorder. We should choose the milder preparations, as those of lead, zinc, bismuth, magnesium, boric acid, diluted carbolic acid, a bland oil, etc. Remedies of this kind may be applied in the form of lotions, ointments or dusting powders according to the circumstances of the case. When the initial severity of the disease has subsided, if it shows, as it often does, a tendency to linger in a subacute or chronic form, we may begin cautiously to increase the strength of our applications or adopt others of a more decidedly stimulating character.

To revert to the patient I shall begin the treatment by the administration of:

℞.	Antim. et potass. tartratis	gr. ss	032
	Massæ hydrargyri	gr. x	65
	Pulv. jalapæ	gr. x	65
	Pulv. cinnamomi	gr. j	065

M. ft. chart.

This combination will have a beneficial influence upon the secretions of the alimentary tract in addition to unloading the bowels. After he has been freely purged he shall be placed upon:

℞.	Acidi hydrochlorici diluti	ʒv	1848
	Pepsini pur	ʒiij	117
	Glycerini	fʒj	2957
	Aquæ	q.s. ad ʒiv	11828

M. ft. sol. Sig. Teaspoonful in water after each meal.

If the bowels should show any tendency to become

constipated again the patient shall be given every night or two a capsule containing 1 grain (0.065 gram) each of blue mass, powdered jalap and compound extract of colocynth together with 1-20 minim (0.003 c.c.) of oil of peppermint.

On account of the almost universal distribution of the eruption the patient shall be given a moderately warm bath every day while the inflammatory action is severe. This soothes the skin, washes away the products of disease, and allays the itching. Rain water is beneficial, but the addition of an alkali and emollient enhances its efficacy. About 4 ounces of sodium bicarbonate or borate and 3 pounds of starch added to the water makes as a rule, a soothing, grateful bath in such an extensive violent case as the present. It must be admitted, however, that there are cases which receive no benefit from general baths. Injudiciously or immoderately practiced immersion may aggravate the disease. We must be guided in each individual case by the effects.

After the bath the surface is gently mopped dry when it may be anointed with a mild preparation, such as the following:

℞.	Calaminæ	℥j	39
	Bismuthi subnitratis	℥ij	78
	Unguenti cucurbitæ		
	Unguenti aquæ rosæ	āā ℥ss	156

Finally over the ointment a bland dusting powder, such as starch, arrow-root, lycopodium, talc or magnesium carbonate may be freely sprinkled. When so much of the surface is involved an ointment is usually preferrable in practice to a lotion. Except in the extremest cases a patient can scarcely be expected to sit at home in light undress and continually mop the surface with a wash.

CHRONIC ECZEMA.

Some of the results of a continuance of eczema are illustrated in our next patient, a man of 40, who has been afflicted with the disease for fourteen months. The predominant lesions are of the class known as secondary. Upon the flexor surfaces of both forearms, in the popliteal region of each side, the outer surface of each leg and around the ankles as well as upon the buttocks are spots and patches of infiltration, varying in size, those upon the forearms and legs being quite large. The skin is thickened, rough, hard, dry and inelastic. It is a deep red color in these situations. The eruption is accompanied by persistent itching. The larger patches are more or less plentifully covered with thin, grayish scales. Tormented by the itching the man has in numerous places torn the skin with his nails and blood crusts have been the result. At other sites the inelastic integument has given way to muscular traction forming painful fissures. Some of these are deep and bleed easily. To the troublesome itching the fissures add an element of actual pain. The totality constitutes to the patient a very distressing case.

The eczema in this instance, is certainly due to digestive derangement. The man has marked symptoms of gastric and intestinal dyspepsia with torpidity of liver and lack of assimilation. There is much flatulence, a coated tongue with fetid breath and irregular action of the bowels. In brief there is present a condition of auto-infection by imperfectly elaborated alimentary material. It will be necessary to unload his intestinal canal, stimulate the digestive functions and regulate his diet. He shall be allowed a sufficiency of nitrogenous food of the most digestible kinds, such as eggs, roast beef or mutton and plenty of milk with once a day some well cooked vegetables. Without attention by proper diet and remedies we should seek in vain to cure this case by means of external remedies.

I shall order first the capsule of which I have already spoken.

℞	Massæ hydrargyri.		
	Pulveris jalapæ.		
	Extract. colocynthidis comp	āā gr. j	065
	Ol. menth. pip.	m. 1/20	003
	M. et ft. capsula No. j. Mitte tales No. xx.		

Sig.—One capsule to be taken every night at bedtime.

In order to improve his digestion he shall be given a mixture of hydrochloric acid and pepsin, composed as follows:

℞	Pepsinæ glycerini	℥j	312
	Acidi hydrochlorici dil.	m. ccccc	308

M. Sig.—Two teaspoonfuls after each meal.

Locally there shall be applied:

℞	Acidi salicylici	gr. xv	97
	Acidi carbolici.	m. x	62
	Sulphuris sublimati	℥ ss	195
	Unguenti zinci oxidi benzoati.	℥ j	312

M. ft. ungt.

PSORIASIS.

We have also two patients to form a contrast to chronic eczema, and which require one to enumerate the points of differential diagnosis. The first of these cases, a lad of 18, has been subject for four years to an eruption upon the scalp, face, back and limbs. Upon the hairless parts the characteristics of the lesions can be readily discerned. These consist of patches covered with silvery scales. The disease began as small, dry papules, which by their growth and coalescence became patches surmounted by the scales described. Some of these primary lesions are to be observed now upon the forearms. The patient himself points out small, discrete papules, which experience has taught him to recognize at the earliest manifestation of the disease. They are of rather a bright hue. The disease began upon the scalp. The boy first noticed an unwonted dryness of the scalp. After a time he could feel pimples upon the head, and in the course of a year scales were observed. Subsequently the eruption developed upon the side of the trunk, knees and limbs. Individual papules are at first always separated by a space of intervening healthy skin. A little scaling is seen upon their tops almost from the very first.

Large patches exist upon the breast, back, thighs, legs and arms. They are prominent upon the back of the elbows and just below the knees. The patches are largest upon the thighs and abdomen. They are thickened, red and scaly. Primary lesions are now in process of evolution upon the hands. Until recently they had never appeared in this situation.

There is not much itching. If he becomes overheated the papules and patches may itch. At such times he is apt to tear off scales in scratching, and then there is a little bleeding.

There is a distinct rheumatic history in this case. A year ago the youth suffered severely from rheumatic pains, and has ever since been subject to sharp twinges in the shoulders, loins, arms and legs. The pains are particularly sharp prior to the development of fresh lesions. He has also some dyspeptic symptoms.

The next patient is a man, 37 years of age, who for two years has been troubled by a rash presenting the same aspect as that of the preceding case. In this patient the disease began behind the elbows, and scaly patches are scattered upon various parts of the body There is no occasion to describe them in detail. In

this individual also, there is clinical evidence of the rheumatic dyscrasia. He describes himself as constantly feeling weary, having a weak back, desiring to lie abed in the morning. He formerly possessed average energy, and is not willing to be accused merely of laziness. Nor do I regard his symptoms as due to laziness, but as the sluggishness denotive of the hepatic torpor so frequently the concomitant or the origin of subacute rheumatic manifestations.

Both these cases are stamped with the same seal. The impress is characteristic and almost pathognomonic of psoriasis. When once known this disease can generally be recognized with ease and certainty. We can scarcely mistake as regards psoriasis, but chronic cases of eczema, attended by desquamation, may bear a certain resemblance to it and engender doubt. The course of the latter affection, however, is altogether different from that of eczema. In psoriasis we have a history of individual scaling papules separated by sound skin and in almost any case the physician may himself demonstrate the existence of such primary lesions in addition to the scale-covered patches. The papules are present in both cases. In papular eczema there is no such isolation of the lesions, which moreover very frequently arise from a reddened base. Eczema has a predilection for the flexures of joints; psoriasis usually begins on parts where the epidermis is thickest. The scales of eczema are thin and scanty; those of psoriasis are thick, firm and generally of silvery aspect.

Psoriasis is fundamentally a hypertrophic disease, attended by inflammatory changes, enlargement of the papillæ of the skin and hyperplasia of the cells of the stratum mucosum. The patches in some cases assume huge dimensions, and in other instances very fantastic outlines. It is essentially a stubborn affection. The treatment and prognosis of each case depends upon its cause. The origin may be in morbid conditions of the blood, nervous system and viscera. In a large proportion of cases it is due, as in the cases before you, to the influence of rheumatism. Gout also plays a large part in its production. It follows, therefore, that successful treatment depends upon the general principles of internal medicine, and that local therapy must in many instances be of minor importance. Topical measures alone will seldom cure the malady. Quite often I order no local applications whatever, and depend entirely upon systemic medication. This is the course which I shall pursue in the case of the second patient, the older man. I shall prescribe:

℞ Sulphuri sublimati . . . . . gr. iv | 26
Potassii bitartratis . . . . . gr. j | 065
M. et ft. capsula No. j. Mitte tales No. xxx.
Sig.—From four to six capsules to be taken *per diem*.

Small doses of sulphur are of decided value in subacute rheumatism. In these quantities it acts by absorption, stimulates the liver, the glands of the bowel and of the skin. As a normal constituent of albumin and of taurocholic acid the administration of sulphur is a logical procedure in disorder of the hepatic and cutaneous secretions and in perverted nutrition of the epithelial elements of the skin, the cuticle, hair and nails. Furthermore, sulphur is extremely beneficial in subacute muscular rheumatism of the type exhibited by the patient.

In the case of the lad we find a more active manifestation of rheumatism. The potassium iodid will here exert a more speedy effect. I shall direct him to have 10 grains (0.65 c.c.) of that salt four times daily, increasing to 15 (0.97 c.c.) and then to 20 grains (1.3 c.c.) according to the manner in which it is tolerated. It shall be given in the compound syrup of sarsaparilla as a suitable adjuvant. For the youth I will order the following external application:

℞ Unguenti hydrargyri nitratis. . . . . ʒ ss 195
Acidi salicylici . . . . . ʒ ss 195
Unguenti zinci oxidi benzoati . . . . . ℥ j 312
M. ft. unguent.

In such cases frequent steam baths are useful. Many practitioners accord a high value to chrysarobin as a topical remedy in psoriasis. I do not often employ this agent for the reasons already intimated. Moreover it is very irritant, and it stains the skin, hair, nails and underwear.

THE SCHOOL TRAINING OF YOUTH.

Presented to the Section on Physiology and Dietetics, at the Forty-eighth Annual Meeting of the American Medical Association, at Philadelphia, Pa., June 1-4, 1897.

BY CHARLES E. WINSLOW, M.D.
LOS ANGELES, CAL.

The two essential parts of a human being are mind and body, and so constituted are they that each is of the utmost importance to the other. They are bound together by ties that render them inseparable through life. A suffering body depresses the mind; a harassed mind wearies the body. That which strengthens the human organism, stimulates the intellect to action. Raptures of the mind thrill the body. This being true, how important that from the first days of life, the intellectual and physical should grow and develop side by side.

That laws of health obeyed increase and add pleasure to life, should be known by every man, woman and child in our land. Health with a fair mind is worth more than a brilliant intellect in a feeble constitution.

The broadening light of knowledge reveals truths in cause and effect of hygienic principles before unknown. These bear added responsibilities, opening up a field of labor prepared for the growth of wise thought and action. We are realizing more and more the need of staunch and energetic men who can stand against the push and energy of the day, assert and maintain their beliefs and not break down in health as they are ready to grasp the great promises of the future.

A community's healthfulness greatly aids the progress of business. The commercial interests of the nation demand the improvement and protection of human life. To promote the future prosperity of our nation, and to elevate the physical standard of the human race, we must build up the bone and sinew of the country; therefore the science of hygiene must be understood. The grandest results will be attained only when the people come to a full comprehension of the value of the laws of health. To bring the greatest influence to bear upon the education of the masses, we must begin at the foundation and enlighten the people through the growing youth of the land. We must instil into their minds a knowledge of the fundamental truths of hygiene, and increase the powers of the intellect and body, thus making a better and stronger race of men and women.

The future history of our nation will be made by the children of the present. What we do for the child of today is something done for the adult of tomorrow. Every healthy child indicates a healthy

man or woman. Over twenty-five millions of youth in the United States—what a leverage for good! These minds filled with right ideas in regard to health, would be an unmeasured power whose expanding influence would be felt in ages to come.

Our schools are the corner stone of the nation; to them with their four hundred thousand teachers must we look for the forces that are to save the strength of its people. There should the pupils be taught the laws of health by word and deed. The members of the school board should be men of intelligence, interested in the children's welfare and impressed with the fact that the lives and health of fourteen millions of school children are of vital importance to the nation. The selection of sites, building and furnishing of school houses and engaging of teachers should not be controlled by money consideration.

The rights of our school children should be recognized in all ways that will protect and develop the mental, moral and physical health. The play grounds should be large and free from dampness; the buildings should be examples of scientific sanitation; the rooms warm and comfortable, light and airy, free from draughts and poisonous gases, furnishing two hundred cubic feet of pure air to each pupil, and everything should be clean and sweet. The walls of the room should be slightly tinted blue or green that they may be restful to the eye, and there should be the best of blackboards. Care should be taken to have desks so made and placed that they will tend to straighten, instead of deforming the child. The microbe-breeding slate should be discarded and paper especially prepared used in its place. The pencils should be disinfected daily. The school books made of suitable paper, with the printing plain and legible, should be owned and furnished by the district, thus preventing the carrying of books back and forth from families infected with disease, and also the sale of second-hand school books, coming, as they often do, from houses where disease has run riot. The use should be forbidden of the open bucket, in which, through the medium of the drinking cup, the water becomes contaminated with spittle from the mouths of disease infected children. There should be provided a place where the clothing can be warmed and dried. Children from homes saturated with germs of disease should not be allowed to endanger the lives of those from homes clean and pure.

A competent expert in the science of hygiene should carefully inspect the school and its surroundings, and thoroughly disinfect the building and its contents periodically. He should examine teachers, pupils and employes for contagious diseases, test the eyes of the pupils, see that all members of the school have been properly vaccinated, examine into suspected cases of sickness and infectious disease in families whose children attend the school. He should advise with regard to the amount of work pupils are physically able to undertake and also the kind of exercise needed by different children. He should report any needed changes in the buildings, and should lecture to the teachers and older scholars on the principles of hygiene.

The educators of our youth should be selected with the greatest care, for upon them rests a great responsibility; they are at the head of the institutions that indicate a nation's civilization; they are the developers of our citizens. Teachers are born, not made. They should have sound minds and bodies, should love their work and be in sympathetic touch with their pupils, studying their nature. They should have a facility to impart knowledge and at all times bear in mind that there is to be a moral as well as mental and physical growth. They should wisely encourage and interest the child in the lessons to be learned, teaching him to observe and think for himself, remembering that education is in a great measure the development of the faculties rather than the imparting of knowledge. They should teach the importance of self-control, and should be able to infuse joy and gladness into the heart of the child. They should understand physiology and hygiene and learn that there are conditions of the nervous system that must be wisely handled, that there are functions of girlhood that can not be ignored, remembering that the excitement of school life often hides from the teachers the pupil's weakness. The teacher should so instil the distinction between right and wrong into the mind of the youth that there will crystallize into the life all that is best of the moral, intellectual and physical world.

Education is development of power and a storing up of that which will give strength of character, penetration of mind and endurance of body. Childhood is the molding time of life, where weakness of intellect and organism is to be overcome; when deformities of mind and body are to be corrected.

The science that aims to give better health, longer life and greater happiness to man should be paramount to all others; it is of vastly more importance to the youth to know what will prevent misery now, than to know that centuries ago Alexander sorrowed because there were no more worlds to conquer.

Make the study attractive to the student, stimulating the mind to further investigation. No child is too young to learn. Sow the seeds in the kindergarten. Let the truths be gathered all along the pathway of knowledge. Teach the children that cleanliness means health and strength. Teach them that filth and dirt infect the air we breathe, the food we eat and the water we drink, and that it breeds pestilence and transmits disease. Children should be taught not only the truths of the science of hygiene, but also the practical use of the knowledge obtained. The mind and the body should be trained to perform all their functions and live as nature intended.

No false ideas of modesty should prevent the teaching of the evil effects of youthful vices, and the danger of bringing wretched manhood and misery to those who sin through ignorance. These things would better be learned in school from wise teachers than in the street from evil-minded youths.

The older young woman should be taught the importance of motherhood and all it implies. The appalling darkness that surrounds this subject and the ignorance shown by most young women at this period of their lives is an outrage against humanity.

At no time of life is the mental, moral and physical growth so rapid as in childhood. During that period most children are in school.

The first consideration of the teacher should be "how to keep the growing child well," aiming to improve the moral and physical, as well as the mental condition.

The high pressure system of education with its daily grind of study, followed by the severe strain of examinations, exhausts the mind, causes loss of appetite, interferes with sleep, making the child listless, and is responsible for a large share of the increasing

nervous troubles. There are children who will bear crowding, but the majority, with their soft pliant brains, will not stand the strain. The per cent. of myopic cases increase as the pupils advance from grade to grade. This is due largely to close application with poor light, bad printing and defective blackboards.

Forming bones, growing muscles, developing nervous system and the constantly changing conditions of childhood need exercise.

Mind and body should be systematically trained, together growing in strength and power. Forcing either at the expense of the other is dangerous. To cram the brain of a poor, sickly body, without the vital force to use the knowledge, is to make an unbalanced human being. Cultivate good, active minds supported by the brawn and sinew of sound bodies, and they will wield an influence on this swiftly moving civilization.

Muscular tissue will not improve without muscular action. Exercise develops and tones up muscle and nerve force, thus increasing the heart's action, causing the lungs to expand and send richer blood to the brain, which brings clearness of thought and a more practical turn of mind. Manual labor and exercise should be wisely interspersed with study. Physical culture will give to our boys and girls more grace and finer physiques; the shuffling walk will be less often seen, the bent bodies will become more erect and awkwardness will disappear. Special exercises should be given to strengthen the weakest parts, fun and recreation forming part of the exercise. Motion is often rest to a child. Dr. Wey found that twelve of the dullest boys in school, after a course of physical training, without their knowing why it was done, increased their rank in their classes from 45 to 74 per cent.; their minds becoming more active, facial expression more intellectual and eyes brighter.

The children of civilized nations spend too much time in-doors. Long school hours should be avoided. Make the hours of study accord with the age of the pupil, who should rest each half hour. The French primary schools with their three grades, the first of three and a half hours, the second of four and one-half hours, and the third of five and one-half hours for mental work and two hours for bodily exercise, have improved the mental and physical condition of their pupils. In the half time schools of England, the children working half a day with three hours of study, pass the fourth grade in nine and one-half years, while the full time children studying six hours a day do not show the same aptness, and are ten and one-half years accomplishing the same result.

The studies should be made interesting, cheerfulness being encouraged. Forced stillness in a school room is painful. It shows too rigid a discipline, is wearing on the pupil and tends to suppression of the spirits that are needed to make a boy or girl an energetic man or woman.

All children have not equal ability to gain knowledge, and different organisms will not endure the same amount of work.

Rigid rules can not be enforced with safety; growing youth has peculiarities that can not be bound by human laws. The calls of nature must be attended to; because children make it a pretext to go out of doors, teachers are not relieved from the criminal responsibility for the destroyed health of a child The strain that comes to the young girl rapidly developing into womanhood is enormous, and a wise judgment should be used in meeting the dangers to her moral, mental and physical life.

The brightest pupils in school do not always achieve the grandest success in life. Machine work will not make capable men and women; the practical should be woven into the web and woof of children's lives, and their reasoning powers developed. Thoughtful meditation is worth more than impulsiveness.

Crowded education without due regard to the laws of health is responsible for the alarmingly increasing defects of childhood. The tendency to heredity, defective eyesight and hearing, pulmonary troubles and deformities, disordered digestion and shattered nervous systems threatens us as a nation.

Education should so improve the mental and physical condition of the child, that he will rise superior to his inherited tendencies; then will each successive generation grow stronger morally, mentally and physically.

In this age of excessive activity with its wonderful progress in trade, art and science, taxing brains to their uttermost, comes weariness and failure before life's work is fully completed. Education calls for the deepest search for treasures of science, which will bring to the surface grand results in a moral, intellectual and physical manhood, better prepared for life's work, thus enabling him to grasp great possibilities, and make them subservient to his will.

Civilization's light has lessened the shadows of ignorance and we begin to realize that influences are being generated now that will tend toward good or evil in the ages to come. Increased knowledge shows us the way to improve our schools, tells us what is needed to better protect and make sound in mind and body our youth, but back of this must be a power to make and enforce laws of health.

State and government must be the power, with agents systematically carrying on the work, and controlled and guided by a secretary of health at Washington.

Here on the edge of the century let us make ready for the future and send the rays of a brighter civilization into the next, by an army of perfected men and women whose exalted characters, brilliancy of intellect and physical power will make our nation the peer of all others.

Bradbury Building.

SPASMODIC CLOSURE OF THE GLOTTIS IN THE ADULT.

Presented to the Section on Laryngology and Otology, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

BY HAMILTON STILLSON, M.D.

SEATTLE, WASH.

Spasmodic occlusion of the larynx in the adult is usually of the nature of a reflex and is but a symptom of a nerve lesion more remote The remote causes are usually those that produce paralysis of the abductor muscles, notably, the lateral crico-arytenoids and those that produce spasm of the adductor muscles, notably the inter-arytenoids. A differentiation of these causes will be essential to the proper treatment of the cases when presenting.

In the remote causes proper has been enumerated spasm of the adductor muscles. This spasm is usually found in such nervous diseases as chorea and hysteria.

The spasm may always be relieved by temporary anesthesia. It is usually not severe nor of long duration. As a rule it is relieved before loss of consciousness supervenes, the exhaustion caused by the spasm relaxing the spasm. It is of the nature of a nervous cough and is to be treated as such.

It is with closure of the glottis by paralysis of the abductors that this paper has principally to deal. There are two forms, one seen in such diseases as epilepsy, and the other in such diseases as ataxia. In the so-called laryngeal vertigo, laryngeal epilepsy, there seems to be no paralysis of the abductors except during the dyspnea. These attacks are sudden and transient. There is nearly always previous discharge of frothy mucus without premonition as is usual in ordinary epilepsy. The patient will be seized with a sudden violent coughing that amounts to strangling. He will grasp a chair or like object if convenient, and in a few seconds fall, usually upon the back, and entirely lose consciousness. The attack will last but a few seconds. The patient will regain his feet and feel perfectly well, no pain or unpleasant feeling of any kind being present. Indeed, the patient may express the idea that the remembrance of the attack is pleasurable rather than otherwise. The loss of consciousness seems to resemble that of carbonic anesthesia from nitrous oxid, etc.

About thirty cases of this form of closure of the glottis have been reported in literature with sufficient care to warrant proper classification. They are as follows: Charcot (*Comptes-rendus de la Société de Biologie*, p. 336, Paris, 1876; *Le Progrès Méd.*, 1879, xvii, p. 317), Gasquet (*Practitioner*, August, 1819), Krishaber (*Ann. des Mal. de l'Oreille et du Larynx*, 1882, p. 182), Grey (*Amer. Jour. Neurol. and Psych.*, November, 1882), Lefferts (*Arch. Laryngology*, vol. iii, p. 165, New York, 1883), McBride (*Edinburgh Med. Jour.*, March 1884), Russell (*Birmingham Med. Review*, August, 1884), Massei (*Giorn. Internat. delle Sci. Med.*, anno vi), Hermes (*Journ. de Méd. de Paris*, 1887, p. 936), Knight (*Transactions Amer. Laryng. Asso.*, 1886, p. 34), Gleitsmann (*Med. Monatschr.*, i, p. 510), Dauvin (*Journ. de Méd. de Paris*, Aug. 17, 1887), Lennox Browne ("Diseases of Nose and Throat," 3d ed., p. 526), Armstrong (*Med. News*, June 8, 1889), Adler (*New York Med. Jour.*, Jan. 30, 1892, p. 128), Weill (*La Provence Médicale*, Dec. 3, 1887), Fereol (*Progrès Médicale*, 1879, No. 17, p. 319), Phillips (*Med. News*, Philadelphia, March 19, 1892).

Much discord exists as to the nature of this form of laryngeal spasm, but in the opinion of the writer the affection is of the nature of petit mal. Regular paralysis of the abductors is more common in such affections as ataxia, and the attacks differ from those of laryngeal vertigo in that the patient, though he may fall, does not lose consciousness. They differ also in being less sudden and less transient, having less frothy mucus exuded, having often more premonitory symptoms; but the main and principal difference is that there is paralysis or paresis of the abductors at other times than in the periods of dyspnea. There is, indeed, paresis of a greater or less degree almost constantly.

In the case that I record at the end of this paper, the first attack was characterized by loss of consciousness, but in all subsequent attacks, occurring throughout several years, the patient though greatly distressed knew perfectly well all that transpired. He was, indeed, more fully cognizant of the condition of affairs than was consistent with comfort.

This form of closure of the glottis is to be carefully studied, since it is often the one observable precursor of ataxia and may appear long before any other symptoms of that dreadful disease make their appearance. Charcot, I believe was the first to mention it, though Fereol was the first to describe it fully and to trace its relation to ataxia. He gave it a most interesting and graphic description. Kussmaul and others have further developed the subject. Their researches show that when laryngeal paralysis is of central origin, it is most frequently found accompanying disease of the medulla oblongata and of the pons, as in bulbar paralysis, in multiple or disseminated cerebro-spinal sclerosis, in locomotor ataxia and in the general paralysis of the insane. In the case whose history I give below the disease occurred in locomotor ataxia of rheumatic origin.

Case.—On Jan. 5, 1894, F. M., English, aged about 35 years (occupation, proprietor of a logging camp) was brought to my office. He was of large, robust habit, florid complexion; had been drinking, and I thought at first that he was tipsy. He was led staggering and strangling into the office, his eyes staring, face livid and cyanotic, tongue out, presenting a most distressing and anxious appearance. I gave him a few whiffs of chloroform and sprayed his throat with cocain, and got a good view of the larynx. Vocal cords highly hyperemic, as was the mucous membrane throughout the nose and throat. At rest, the vocal cords were almost parallel and tolerably close together—voice not impaired. In inspiration the vocal cords pitched down, valve-like. Later there was audible inspiratory sound, especially in an inspiration taken after the pronunciation of a somewhat lengthened sentence. In expiration the vocal cords were close together and the false cords approached. There was hypertrophy of the lingual tonsil, thickening in the region of the pharyngeal tonsil, hypertrophied follicles on the posterior wall of the pharynx, edema and elongation of the uvula, edema of the right septum posteriorly, deviation of the right and left septum and septal spurs, hypertrophy of mucous membrane on the right and left lower turbinates. Among his general symptoms were constipation and hemorrhoids. His gait was unsteady, his feet being placed wide apart. He reeled while standing with his eyes closed. There was cutaneous anesthesia on the sides of the chest and on the lower extremities. The skin was not sensitive to the pain of pricking, but very sensitive to that of heat and cold. Patient complained that cold was painful to him. Knee jerk was absent; tendon reflex was absent.

Vision, right and left, $\frac{15}{20}$, unimproved; requires a + 4 D. to enable him to read Jaeger No. 1 at fourteen inches. The range of accommodation was two inches. There was exophoria for a distance of two and one half degrees when looking straight forward, greater when looking to either side, diplopia when looking to the right or left of center, at which time patient complains of being dizzy.

History.—Twelve or fifteen years ago had a severe attack of rheumatism through shoulders and chest, dull soreness through muscles of chest and shoulders and for years after could not comb his hair with comfort, could not get arm up, the touch of the clothes was painful, rheumatism confined principally to the chest.

About five years ago, while engaged in the lumber business he had attacks of dizziness, especially after lifting or stooping, head would get dizzy and glimmer; had sick headache and dyspepsia, thought it was biliousness; knees would get weak and painful, especially after walking skids very much; would have sick headache every week and would end in emesis. Has not had this bilious sick headache for two years, but occasionally vomits after coughing awhile.

Four or five years ago the skin became numb: "If you would pinch it it would not hurt." It was then all around the chest. It is so now. The skin is very sensitive to heat or cold, can not take a cold water bath.

About five years ago the strangling cough attacked him. The spasm would last fifteen or twenty minutes. There would be a tickling in the throat as though a bread crumb were there, would hawk and try to get it out, then would cough and strangle, did not lose consciousness in these attacks nor fall, neither was there much expectoration. What he did spit up was a sort of white foamy phlegm. At first the attacks would

last from ten to fifteen minutes, "seemed to be caused by the drawing of the breath." Sometimes the patient would hold his breath to keep from having the pains.

A year or two ago had twitching of the eyelids on the right side. At that time the numb skin on the trunk felt creepy, especially when the clothes would touch it, and the patient felt as though walking on sand all the time.

A year ago last fall his eye trouble became worse—eyes saw double, and this double vision lasted for about two or three weeks, could hardly see across the house, could see double each way, to the right and left; would not see double when looking straight forward. After looking to the right or left it would take a little while to get the eyes pointed straight forward again.

March, 1896.—No heterophoria. V. D. = 20/30; with + .50 C. axis 90° = 20/20. V. L. = 20/40; with + .50 C. axis 90° = 20/30, to which was added + 3.50 for near vision. A test with the perimeter shows a slight narrowing of the field for red and a central scotoma in field of left eye. Patient no longer gets dizzy, except in bed at night, when he is awakened by a great noise in the head, and will be dizzy until he can assume a new position. The glottis does not completely close in spasm, though he occasionally has a tickling spasmodic cough of short duration.

December, 1896.—Does not strangle, and the cough is slight and controllable. Vocal cords during phonation are parallel. When getting his breath after having spoken a few words his inhalations are audible. Mucous membrane of the throat is pale. Vocal cords during phonation are not steady. The left vocal cord is in the median line and remains there during the use and non-use of the voice. During phonation the right vocal cord will come up into position parallel with the left, and then by a series of unsteady movements will go away from its partner. During inhalation the left cord remains in the median line and is sucked downward like a valve, while the right vocal cord is curved outward, being somewhat sickle-shaped, and is valve-like but not depressed as much as the left.

May 11, 1897.—The patient has had but one attack of strangling in several months, no dizziness, no pains, no difficulty in micturition or defecation, no hemorrhoids. The field of vision remains about the same. The scotoma in the right eye is not now demonstrable, and that in the left eye is much smaller, being but a mere line extending from the point of fixation half way across the nasal portion of the field.

SALIVARY CALCULI.

Presented to the Section on Laryngology and Otology, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

BY W. FREUDENTHAL, M.D.

PRESIDENT OF THE GERMAN MEDICAL SOCIETY OF THE CITY OF NEW YORK.

NEW YORK, N. Y.

Salivary calculi are, as a rule, easily recognized, although they are not of frequent occurrence. They are most frequently located near the buccal end of Wharton's or Steno's duct, and often have a definite outline and shape, rendering their detection by palpation usually easy. There are, however, a number of cases recorded in which their discovery was made by mere chance. Such an instance occurred in my practice. In two of my cases the diagnosis was easily made.

It appears that the growth and formation of salivary calculi begin years before their detection, and in this respect their character is quite in contrast to the stones found imbedded in the nasal cavities, which latter reach a large size after sometimes a growth of only a few months. The secretory function of Steno's or Wharton's duct and of the nasal cavity proper are not only different, but the foreign bodies found there are of different sizes. Sometimes these ducts contain large stones, without in any way producing symptoms, or in any sense annoying the patient. Such an instance is the following case:

Case 1.—Mr. A. F., 23 years of age, for the last six years a professional clarionetist, came to me last winter, in the height of his season, complaining of a cold, contracted two weeks before, and in consequence of this an abscess had formed, as he believed, under the tongue. On examination I found a swelling about the size of a hen's egg in the left sublingual region. No hard substance could be felt at all. Believing that I was dealing with a ranula, I made a long incision through the buccal mucosa. A mass of fetid pus escaped, and, to my surprise, the end of a stone, oblong in shape, appeared in the opening. It was readily extracted. It undoubtedly came from Wharton's duct, judging from its contour. There is nothing unusual in its size and weight.

After thoroughly cleansing the abscess cavity, I passed a probe, and was surprised to find evidence of another stone situated deeply within the tissues of the submaxillary gland. My first effort to extract it resulted in failure, as it slipped back further in the cavity. My second attempt, however, was successful. The stone was irregularly oval and about as large as a cherry. One would suppose that a person whose mouth is constantly in action by reason of his professional occupation, would be able to detect anything of an abnormal character in it. Yet in this instance the patient never suspected anything whatever, until two weeks ago, when as he states, he contracted the cold, which most likely caused the abscess about which he consulted me. He is positive that before contracting his cold he never felt anything unusual in his mouth.

As an illumination of the powers of endurance, it is interesting to state that my patient, a weak man at best, not only followed his usual vocation as a clarionet player up to the day on which the calculus was discovered and extracted, but also played his musical instrument on the evening after the operation despite the fact that there was a large iodoform tampon in the old site of the calculus. There are on record other instances where a supposed "cold" led to the detection of salivary calculi.

Mr. Carver[1] removed a stone from a man 70 years of age, who had noticed some tenderness in the sublingual region only for about five or six weeks.

Demons[2] found a stone the size of an olive in Wharton's duct, which produced no symptoms until three weeks before its removal.

There are, on the other hand, cases recorded in which the stone had made its presence felt for several years before its final extraction. Alfred Smith and Alex. T. Scott[3] reported a case in which a tumor had been first noticed by the patient seven years before, at which time it was the size of a pea.

Jos. Dixon[4] describes the sufferings of his wife, who had noticed a swelling under the tongue for fifteen years. Mr. Alexander Bruce[5] removed a stone of "considerable dimensions," as he states it, although it weighed only 11½ grains. In this instance the patient had felt it fourteen years previously. Dr. Webb's[6] patient felt a small lump sixteen years before being operated upon. Dr. Padieu's[7] patient felt it for twenty-five years, and Dr. Schuster's[8] patient for forty-four years (!)

It is known that patients suffering from salivary calculi frequently obtain relief from their symptoms by squeezing out the pus and mucus which surround the stone and fill the cavity, into the mouth, from which they expectorate it or unconsciously swallow it. Thus, we can understand in Jos. Dixon's case the attacks of dyspepsia lasting for fifteen years, which were not amenable to treatment. The patient apparently swallowed the secretions which she pressed out from the glands.

Other symptoms caused by the stones are pain increased by movements of the jaw such as during mastication, and from retention of saliva shortly after mas-

1 The Lancet, March 13, 1886, p. 494.
2 Jour. de med. et de chir. de Bordeaux, Sept. 6, 1885.
3 Jour. of the British Dental Assoc., 1888, p. 175.
4 Lancet, Nov. 26, 1887, p. 1068.
5 Transactions of the Pathol. Soc. of London, Vol. xvii, p. 134.
6 Ibidem, viii, p. 221.
7 Gazette Med., June 6, 1885.
8 Oesterr. Vierteljahrsschr. fuer Zahnheilkunde, Oct. 1886.

tication. Still another symptom occasionally encountered is difficulty in breathing. That this last symptom is sometimes dangerous to life is proven by the case of J. W. Hulke, and my second case.

Hulke[9] treated a young lady who had a tumor under the tongue which had been growing for the last six years. This tumor sometimes enlarged temporarily to such proportions as to threaten suffocation. At times there would be a discharge into the mouth, followed by the return of the swelling to its former size. The patient indicated by her statements that the stone had nearly suffocated her.

The following case which came under my observation, illustrates this last point:

Case 2.—Mr. N. S., aged 45 years, had been suffering two and a half years before he noticed a swelling under the tongue. This swelling grew steadily, and occasionally caused him great pain. For the last ten days the pain and swelling had grown worse. During the night he snored so loudly that he had to be wakened, and on these occasions his face would become markedly cyanotic. The patient was tall and very stout, and had the hoarse voice that characterizes the chronic alcoholic. On examination the tumor was found to project slightly from under the tongue and to extend along the right of the frenulum, reaching to the floor of the mouth, backward between the root of the tongue and the angle of the jaw, at which spot it appeared to be adherent to the buccal mucous membrane, simulating the case described by Hulke. By palpation fluctuation was elicited, and a hard mass could be plainly felt within it. I was quite sure that we had to deal here with a salivary calculus which had formed in the beginning of the main duct, and I advised its removal. For obvious reasons the patient refused and went home. His heart and lungs were normal.

Several weeks later I received a note from his physician, stating that the patient had died. The night preceding his death he had imbibed more freely than usual, and then retired. Having fallen asleep, he began to snore so loudly that his wife awoke. She found the patient breathing with great difficulty, while his face was black and blue. She tried to awaken him, but failed. She had a physician called; but the patient died of suffocation before medical aid reached him. An autopsy disclosed an almond-shaped salivary calculus, imbedded in a pus cavity. Death no doubt resulted indirectly from its presence; for on previous occasions he would invariably get rid of the pus that had accumulated in the cavity by coughing or hawking it out, and in this manner relieve himself of the cause of his dyspnea. But on the fatal night he was so fully under the influence of liquor that he could not arouse himself from the stupor caused by it, and thus succumbed.

I remarked in the beginning of this paper, that when I compared the sizes of salivary calculi and rhinoliths that I believed that the majority of these deposits owe their formation to the fact that a foreign body enters the duct or gland itself.

When Clinton Wagner[10] says: "These concretions are formed by the deposit of earthy salts from the saliva in the excretory ducts leading from the gland or in the body of the gland itself, and that the cause of the deposit is an obstruction to the flow of saliva either to or through the excretory duct," he overlooks the primary cause of their formation, *i. e.*, a foreign body. Around this foreign body is deposited layer after layer of earthy salts. This obstruction causes a retention of the salivary secretion. I do not, however, claim that this process obtains in all instances of salivary calculi, but in the majority.

Professor Ribbert of Bern, found that a hair of a toothbrush had forced itself into Wharton's duct, thus giving rise to the formation of a salivary calculus around it.

In several other instances the same causative element was found. Hulke removed a stone weighing 76 grains. Its broken surfaces exhibited concentric rings around a small, black, central speck. This speck was a fragment of wood.

It must be true that in certain calculi no central foreign body can be demonstrated, because it has undergone chemical changes. Galippe reported a case of spontaneous discharge of a stone from Wharton's duct. This calculus had concentric strata without a kernel being found. But he found microbes, already described by Malassez and Vignal, in these deposits.

One case is reported by Wertheimer[11] in which an abscess formed during eating. The patient while eating blueberries suddenly noticed a tumor in the right submaxillary region, and at the same time a burning sensation in the mouth These symptoms always appeared during mastication. Finally, among greenish cheesy masses, the berries were found. Here stones had not yet formed, so, properly speaking this case does not belong here, but it shows how often foreign bodies enter Wharton's duct.

Case 3.—Mr. M. P., 57 years of age, merchant, of moderate habits and enjoying good health, had noticed for some time a small lump in the left submaxillary region. For the last three months it had grown steadily and had become painful during and after mastication. A simple incision was made, and a small oval-shaped stone removed. In cutting it open, concentric rings were seen and a very small piece of wood in the center. It was ascertained that the patient had been for years in the habit of chewing toothpicks, thus most likely forcing the foreign body into Wharton's duct.

These cases certainly prove that the formation of calculi around a foreign body does occur in these as well as in other parts of the human anatomy. That there are other causes for their formation there is no doubt, an increase or decrease in the quantity of saliva is an important factor.

A case of Thomas Ballard[12] is of interest: A young lady suffered from the effects of a buccal abscess which had opened spontaneously. Two small calculi were removed from the abscess cavity. It was learned that eleven years before she was salivated during an attack of jaundice. It is probable that this salivation caused a swelling of the excretory duct of the gland, then a retention of saliva and gradually the formation of a stone.

Just as increased flow of saliva may tend to produce a calculus, it may also tend to wash away a nucleus in the duct, around which salty deposits might form. This was the case with a patient of Kurz's, who had taken pilocarpin internally. The increased glandular excretion washed out a calculus from Wharton's duct.

In conclusion, I also believe that the submaxillary is more often the site and seat of calculi than the parotid gland, because the secretion of the former gland contains a comparatively larger proportion of mucin, a substance which seems to possess considerable adhesive properties, and seems to favor the deposit of inorganic salts. This belief is confirmed by the fact that the usual site of the calculus is just at the outlet of the salivary duct on the buccal mucosa, a point which furnishes a ready ingress for foreign matter.

1003 Madison Ave.

[9] Transactions of the Pathol. Soc. of London, Vol. xxiv, p. 88.
[10] N. Y. Med. Jour., Nov. 11, 1893, p. 560.
[11] Corps étrangers du canal de Wharton. Bulletin méd. du Nord. Dec. 12, 1885.
[12] Transactions of the Pathol. Soc. of London. Vol. xviii, p. 93.

DISCUSSION.

DR. SOLLY—I once found a calculus in the submaxillary gland. I have never seen a case reported where the calculus was imbedded in the body of the gland. An incision was made following up the duct and the stone was felt by the finger, imbedded in the gland, and was then forced into the mouth and removed. The stone was about the size of a chestnut and weighed twenty-five or thirty grains.

DR. FREUDENTHAL—I am sure that there are several cases on record where the stone was in the body of the gland. Dr. Bull of New York has one, and there is a case reported by another surgeon whose name I do not recall, in which the stone could not be reached from the inside of the mouth and he had to make an incision from the outside.

AN UNUSUAL CASE OF BLOOD CYST OF THE POSTERIOR NARES.

Presented to the Section on Laryngology and Otology at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

BY JOHN N. MACKENZIE, M.D.
NEW YORK, N. Y.

The patient was a young lady of 23. As a result of the imperfect extraction of a tooth, there was necrosis of the jaw, with subsequent exfoliation of bone, leading to a more or less complete obliteration of the lower portion of the antrum. This had happened five years before consultation. For three years before consultation she had suffered with symptoms referable to the orbit and antrum. On examination a small glistening point was seen, resembling the appearance seen in fibroma of the nasal cavity. The right side of the nose was occluded. The mass looked very much like a child's toy balloon. The envelope of the cyst was extremely attenuated looking as if it was scarcely a line in depth. I made an appointment with her to return the same day, but in the meantime a spontaneous rupture occurred, and when I examined her the next day I was unable to find any trace of the growth. The inflammatory process which originated the trouble probably started in the antrum as a result of the necrosis of bone, and from this the edema and the subsequent formation of the cyst had resulted. I consider this a unique case. Some cases of large serous cysts have been reported.

AN ETIOLOGIC STUDY OF ATROPHIC DISEASE OF THE UPPER AIR PASSAGES BASED UPON AN EXAMINATION OF TWO HUNDRED CASES.

Presented to the Section on Laryngology and Otology at the Forty-eighth Annual Meeting of the American Medical Association held at Philadelphia, June 1-4, 1897.

BY J. L. GOODALE, M.D.
BOSTON, MASS.

In the following paper I desire to invite your attention rather to the predisposing than to the immediate causes of atrophic states of the nose, pharynx and larynx. The statements current in our recent text-books that certain classes of persons under certain conditions are particularly liable to these conditions appear to be derived from general impressions. Since under such circumstances, a few positive examples are apt to outweigh unduly a large number of negative and therefore easily forgotten ones, I undertook recently to submit the current statements to the test of a systematic examination. For this purpose 200 cases of atrophic disease of the nose, pharynx or larynx were investigated carefully with reference to the following points.

1. The relation of these states to age, sex, sexual functions in the female, and general nutrition.
2. The influence of a normal patency of the anterior nares.
3. The influence of the inhalation of an insanitary atmosphere.
4. The influence of pre-existing local or general disease.
5. The relation to associated hypertrophic states of the neighboring mucous membrane or lymphoid structures.

In the consideration of atrophic disease, I have at the outset excluded the following conditions:

1. An imperfect development of the intra-nasal structures, especially of the turbinates, occurring in chlorotic young women, and not associated with nasal obstruction or chronic inflammation of the nasal mucous membrane. For purposes of convenience, I have called this condition congenital hypoplasia of the nasal turbinate, since, although histologic examinations are wanting, an analogy is very directly suggested to Virchow's congenital hypoplasia of the female sexual and vascular systems associated with chlorosis.
2. I also exclude an imperfect development of the intra-nasal structures occurring in post-nasal obstruction, probably due as I have previously suggested[1] to the absence of normal respiratory alterations in intra-nasal air pressure requisite for proper nutrition.
3. There are to be excluded the anemic conditions of the nasal mucous membrane, secondary to general malnutrition, particularly seen in phthisis; also
4. The pressure atrophies from septal deviations and new growths.
5. Finally, atrophic states associated with syphilitic lesions in the vicinity.

With the exception perhaps of the last, such states are the result of altered nutrition and non-inflammatory in nature. They are therefore sharply to be distinguished from the genuine atrophy at present under consideration. The five conditions just referred to although recognizable when occurring typically may, if inflammation supervenes, closely resemble clinically mild forms of genuine atrophy. This possible source of error is to be borne in mind in the examination of cases.

For purposes of classification it appeared most natural to divide the cases of true atrophy into the following groups:

1. Atrophic states of the nasal structures, not accompanied by decomposition, whether or not associated with atrophy of the pharynx or larynx.
2. Atrophic states of the nasal structures with characteristic fetor, whether or not accompanied by atrophy of the pharynx or larynx.
3. Atrophic or dry conditions of the pharyngeal mucous membrane unaccompanied by atrophy within the nose.

For convenient designation these conditions will be called respectively, non-fetid atrophy, fetid atrophy and pharyngeal atrophy.

The relations of these atrophic states to sex are *non-fetid atrophy*, males 20, females 54; *fetid atrophy*, males 28, females 71; *pharyngeal atrophy*, males 12, females 15.

[1] An Experimental Study of the Respiratory Functions of the Nares; Boston Medical and Surgical Journal of November 5 and 12, 1896.

Age.—Since the age at which characteristic symptoms first developed is of more value than the age at the time of examination, a table of this is given.

AGE OF DEVELOPMENT.

AGE.	MALES.			FEMALES.		
Between	Non-fetid.	Fetid.	Phar.	Non-fetid.	Fetid.	Phar.
1 and 4	(3) 1	(2) 1	. . .	(6)	(5)	. . .
5 and 9	(4) 3	(9) 1	. . .	(8) 3	(28) 1	. . .
10 and 14	(4) 3	(8) 7	. . .	(2) 7	(22) 8	. . .
15 and 19	6	(2) 8	(4) 2	(2) 11	(5) 17	(2) 1
20 and 24	3	(3) 1	(2) 5	9	(1) 19	(1) 2
25 and 29	3	5	1	10	(3) 10	(3) 2
30 and 34	1	3	1	7	4	2
35 and 40	. . . . .	3	. . .	3	7	3
Above 40	. . . . .	. . . .	3	4	5	(5) 5
Doubtful Duration	(6)	(4)	(6)	(36)	(7)	. . .

(Figures in brackets indicate age when characteristic symptoms appeared; unbracketed figures indicate age at time of examination.)

Sexual functions in the female—Character of menstruation. Non-fetid atrophy (54 cases): Menstruation regular and normal, 27 cases; menstruation irregular or scanty, 11 cases; menstruation not appeared, 6 cases; answers doubtful 10 cases.

Of the fifteen pharyngeal cases only one had noticed increased dryness of the throat during menstruation.

A single case only, one of fetid atrophy, had noticed improvement after establishment of menstruation.

No case had noticed any change following marriage. In one case of non-fetid and one of fetid atrophy the symptoms greatly diminished after childbirth.

General health and nutrition.—In the seventy-four non-fetid cases it was noted that six males and thirteen females exhibited distinctly poor health and nutrition, the remainder being well up to or above the average.

In the eighty-seven fetid cases, twenty-four showed poor health and nutrition.

In the cases of pure pharyngeal atrophy, three cases, all females, showed poor health and nutrition.

The inhalation of an insanitary atmosphere and the previous existence of local or general disease were inquired into in all cases, but owing to the low degree of intelligence possessed by many of the patients, as well as for other reasons, the answers afford information of doubtful statistical value, and have therefore been omitted.

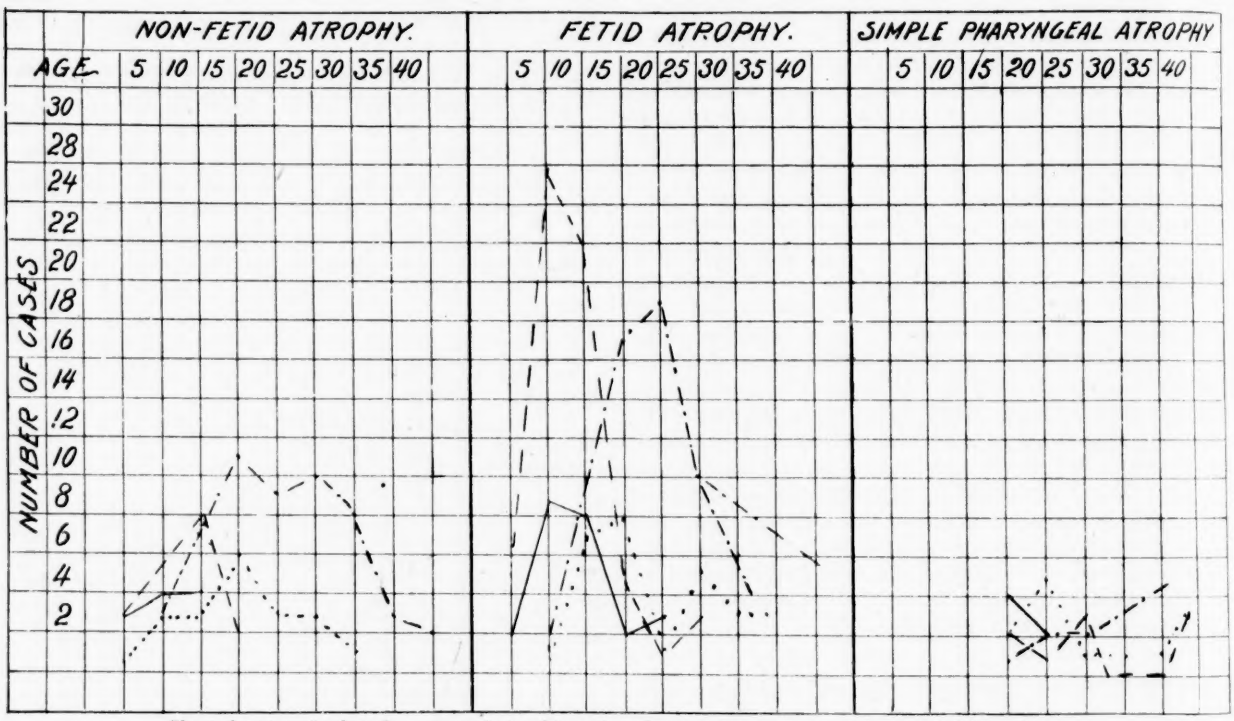


Chart showing absolute frequency of atrophic states of upper air passages in 200 cases at different ages.

Age of favorable commencement of affection, male ———. Age of favorable commencement of affection, female — — — —. Age at time of examination of male . . . . . Age at time of examination of female — · — · — · —.

Fetid atrophy (71 cases): Menstruation normal, 36 cases; menstruation irregular or scanty, 18 cases; menstruation not yet appeared, 8 cases; answers doubtful, 19 cases.

Pharyngeal atrophy (15 cases): Menstruation normal, 7 cases; menstruation scanty, 2 cases; answers unsatisfactory, 6 cases.

The patients were questioned with regard to the existence of any connection between the intensity of the atrophic symptoms and the period of menstruation.

In the fifty-four non-fetid cases, two only had noticed any increased dryness or discharge during menstruation, seventeen intelligent patients were sure that no such connection existed, and the remainder had never given the matter attention.

In the seventy-one fetid atrophies, nineteen had observed increase of crust formation during menstruation, nineteen were positive that no change occurred, three were sure that the nasal discharge diminished and was less fetid, the remainder being doubtful.

Abnormal patency of the anterior nares.—The presence of a configuration of the anterior nares permitting abnormally free inspiration was noted with reference to the following points:

1. An upturned or tip-tilted condition of the anterior nares.
2. Abnormal wideness of the vestibule.
3. Development of the vibrissæ.
4. Degree of laxity of the constricting band.

Of the twenty male non-fetid cases, one showed a moderate and five a considerable tilting up of the anterior nares.

Of the fifty-four female non-fetid cases, twenty showed this condition moderately, and two markedly.

In the fetid cases, out of twenty-eight males there was moderate tip-tilting in seven and marked in seven

cases, while among seventy-one females this condition was moderate in sixteen and marked in twenty-three.

A widening of the vestibule appeared abnormally marked in the non-fetid cases among eight males and twenty-one females, in the fetid cases among eighteen males and forty-two females.

The vibrissæ appeared less abundant and smaller than normal in the non-fetid cases among nine males and fifteen females; in the fetid cases among sixteen males and thirty-six females.

Of the pharyngeal cases two females and one male showed abnormal patency of the anterior nares in these particulars.

The constricting band of the vestibule appeared unusually lax or deficient in the non-fetid cases among eight males and twenty-one females; in the fetid cases, among seventeen males and forty-three females.

The relation to hypertrophic states of the neighboring mucous membranes and of the lymphoid structures.—Of the non-fetid cases, one showed distinct hypertrophy of the nasal mucous membrane directly contiguous to the atrophy, while three cases showed a polypoid condition of the middle turbinate in association with atrophy of the lower turbinates.

Of the fetid cases, only one showed a hypertrophic condition in association, this being an enlargement of the lower turbinates posteriorly.

On the other hand, the cases of pharyngeal atrophy showed a very different condition of affairs, for seven females and five males, ranging in age from 23 to 72, presented a distinct hypertrophy of the nasal mucous membrane.

With reference to enlargements of the adjacent lymphoid structures, adenoid hypertrophies or remains were present in nineteen non-fetid, in seven fetid and in three pharyngeal cases.

Hypertrophy of the faucial tonsils was present in nineteen non-fetid, in twenty-two fetid and in six pharyngeal cases.

Enlargement of the lingual tonsils was present in eleven non-fetid, in fourteen fetid and in three pharyngeal cases.

Time does not permit an enumeration of some other results of this work, such as the relation to the preceding points of unilateral forms of atrophic rhinitis, or the relation sustained to them by different localizations of the atrophic process in the nose, pharynx and larynx.

Conclusions.—In recapitulation, the following facts are evident.

Both fetid and non-fetid atrophies are more than twice as common in females as in males, while pure pharyngeal atrophy occurs with nearly equal frequency in both sexes.

Both fetid and non-fetid atrophy begin with greatest frequency between the ages of 5 and 15, while the pure pharyngeal form was not found before 20, and occurred irregularly from that age up to 72.

A distinct relation is sustained to the sexual functions in certain females. While menstrual anomalies are uncommon, perhaps not more frequent than in an equal number of females with healthy air passages, yet in 4 per cent. non-fetid and in 26 per cent. fetid cases the atrophic symptoms were increased during the catamenia, while in 4 per cent. of the fetid cases the symptoms were diminished.

The establishment of the menses and the occurrence of pregnancy improved the symptoms in isolated instances.

In all forms, three-fourths of the cases showed good health and nutrition.

Unusual patency of the anterior nares was found in 40 per cent. non-fetid, in 60 per cent. fetid, and in 10 per cent. cases of pharyngeal atrophy.

Distinct hypertrophy of neighboring portions of the nasal mucous membrane occurred only in isolated instances among the fetid and non-fetid cases, while among the pharyngeal cases it was found in about half the total number.

Hypertrophy of the pharyngeal tonsil occurred in 20 per cent. of the non-fetid cases, in 7 per cent. fetid, and in 10 per cent. pharyngeal.

Hypertrophy of the faucial tonsils occurred with equal frequency among the three forms, namely in about 20 per cent.

A review of the preceding results indicates that the weight of their testimony is distinctly against the theory that non-fetid and fetid atrophy is the sequel to a pre-existing hypertrophy, at least to a hypertrophy as we ordinarily understand the term. On the other hand, the facts are in direct corroboration of the supposition that the process is primarily an atrophic one, whether we consider it to originate in the action of a specific micro-organism or not.

In pure pharyngeal atrophy it is more difficult to draw conclusions, owing to the greater complexity of the conditions. Without discussing its etiology, we have reason, from these investigations, to suppose that a form of atrophic pharyngitis exists which differs in nature and origin from the conditions called fetid and non-fetid atrophic disease of the upper air passages.

3 Fairfield St.

DISCUSSION.

Dr. FREUDENTHAL—I think Dr. Goodale did not lay enough stress on the question of the sanitary condition of the atmosphere. It is remarkable what an amount of bad air otherwise well educated people will stand. The air that we inhale is moistened in the nose. In order to fulfil its work, the air must have 50 or 60 per cent. of relative humidity. In summer the air is filled with moisture, but in winter it is not. In New York the atmosphere in winter contains not more than 10 per cent. of moisture. It is very probable that such an atmosphere will dry the nasal mucosa. The lack of moisture in the air can be made up by the nose for a time, but if the condition goes on too long the parts dry out. I am positive that the dry atmosphere that we breathe in our houses for six months of the year is one of the principal factors in atrophic nasal disease.

Dr. SCHEPPEGRELL—In New Orleans we have a very humid atmosphere, but I have no reason to believe that atrophic nasal disease is more rare than elsewhere. Dr. Goodale has no faith in the fetid atrophic rhinitis being a consequence of hypertrophic rhinitis. In ozena I have never been able to see any relation between them.

Dr. RICHARDS—In the mills in Fall River a moist atmosphere is necessary in handling the yarn, and yet I have a great many cases of atrophic rhinitis in my practice. Among the children who work in the mills it is common.

Dr. SOLLY—In Colorado, where the air is very dry, atrophic rhinitis is common, but hypertrophic rhinitis is not.

Dr. FREUDENTHAL—There is often a large percentage of humidity in the outside air in New York. I spoke particularly of the air in the houses, which we breathe in winter.

Dr. WOOLEN—At the first meeting of this Section that I attended, I stated that I did not believe there was any such thing as a tonsil in a healthy throat. I have also for a long time doubted whether there is any such thing as atrophic or hypertrophic *rhinitis*. The pathology of these cases is to be found in a disturbance of nutrition of the parts. There is a pathologic process going on in the fibrous structures underneath the membranes not essentially inflammatory. If we study these cases we will find that a process of hypertrophy is started which does not need to go far before it frequently turns in the other direction and becomes atrophy by contraction of these fibrous elements. I have long ceased to regard these

cases as atrophic and hypertrophic rhinitis, but intra-nasal atrophy and intra-nasal hypertrophy.

Dr. HOFFMANN—If young children are closely observed it will be found that hypertrophic conditions of the nose and throat commonly exist.

Dr. GOODALE—It seems to me that the views of the different speakers may be brought into harmony when we consider the fact that under different conditions of the atmosphere the disease occurs with equal frequency. This may be explained by the great adaptability of the mucous membrane of the nose. This membrane has great powers of moistening the air. I have known individuals who were reared in a dry climate and those who were reared in a moist climate to have, normally, the same conditions in the mucous membrane. The predisposing causes of the disease are to be found primarily in the lack of resistance of the structures of the nose. This fact is corroborated by the greater frequency of these conditions among females, as a consequence of the greater delicacy of the mucous structures. My own view is that the cause may eventually be found in some bacterium.

MODERN PATHOLOGY AND THERAPY OF ACUTE RHINITIS.

Presented to the Section on Laryngology and Otology, at the Forty-eighth Annual Meeting of the American Medical Association at Philadelphia, Pa., June 1-4, 1897.

BY A. R. SOLENBERGER, M.D.

CHICAGO, ILL.

In creating a rational and scientific basis for the treatment of acute rhinitis, we may assert the same general principles, which are fundamental to all other diseases, viz., that if the constitutional condition of the individual is such as to render him free from the predisposition, there is no such thing as an exciting cause for that individual. This is almost self evident in the case under consideration; for there are those in every climate, exposed to all the exciting causes, who never suffer from colds. The physiologic balance between the digestive, nervous and circulatory systems is perfect; they are immune to all external influences; to heat or cold, to atmospheric perturbations and micro-organisms. This immunity means perfect adaptation of the systems of the individual to his artificial environments; it means perfect tissue resistance to all disease producing causes. Here, then, we have a condition which is incompatible even with a predisposition to nasal inflammations.

It would be rational, then, to direct our treatment to the removal of the predisposition by restoring the normal physiologic balance between the systems and that of the integrity of the tissues. Our therapeutic measures should be directed toward any cause that is found disturbing this physiologic equilibrium, or disintegrating the tissues.

To locate and give value to these disturbing elements is to bring to light the true causal conditions of acute rhinitis. By utilizing modern scientific methods of diagnosis, we have come to see these causes in embryo behind and eventually within the digestive, the nervous and the circulatory systems. They constitute those fundamental conditions which have long been known as pathologic entities, but they have not usually been recognized as being responsible for nasal inflammations. These basal conditions are the temperaments and diatheses; we know them as the nervous, the bilious and phlegmatic; the rheumatic, strumous and tubercular.

Scientific methods of diagnosis show us conditions within conditions — conditions within the temperaments and diatheses, which manifest themselves, first in the state of the nerves and ultimately in the blood. Broadly speaking, the first link in the pathologic chain of acute rhinitis will be found primarily in any influence whatsoever that will unduly dissipate the nerve force. This may be a pathogenic germ—any poison in the blood—any dietetic regime that, from indigestion and mal-assimilation results in mal-nutrition and retention in the blood of half assimilated and, therefore, toxic products; or a diet that reduces the alkilinity of the blood; or it may be midnight dissipation, mental or physical overwork—any influence that constitutes a nerve irritant becomes a nerve exhauster, a peripheral and finally a central paralysant.

To trace one of these causal influences arising from the transgression of a physiologic law, let the transgression be that of mental overwork or a restricted nitrogenous diet. In the one case you have a direct central nerve exhauster, in the other an indirect nerve exhauster from the presence in the blood of a peripheral irritant, perhaps the uric acid crystal or superfluous peptones. In either case, there is first nerve irritation, the nerve grip upon the blood vessels is tightened, the vascular membrane of the respiratory tract offers the least resistance, and that of the nasal cavities the least of all; engorgement in the nasal cavities thus obeys a natural law; for, if now the irritating action continues in force, nerve exhaustion ensues, the nerves then loose their grip upon the blood vessels, there is vasomotor paralysis, the vessels have collapsed, filled with thickened and perhaps acid blood.

Here we have one pathologic pyramid of a well developed cold in the head, in which the inflammation of the Schneiderian membrane constitues simply the the apex, and the abnormal condition behind or within the digestive, circulatory and nervous systems forms the constitutional base.

There are, then, two primary conditions that come before the eye of the rhinologist in the treatment of acute rhinitis; 1, nerve irritants or exhausters; 2, tissue integrity. Nerve exhausters are as various as they are numerous, but the labor of detecting them is greatly simplified by the fact that they nearly all act through and culminate in the temperaments and diatheses. A vicious circle can always be seen in operation: nerve exhaustion, from causes outside the blood, produces an abnormal tissue chemistry; this results in waste and obnoxious products being thrown into the blood, which by their irritant action still further lower the nerve force and weaken the remote organs; these latter become reservoirs for accumulated by-products which are returned to the blood with increased irritative qualities.

If these organs happen to be the liver or kidney there will be retention of urea and uric acid, resulting in reduced alkalinity of the blood—a condition most favorable for mucous membrane inflammation of the respiratory tract. Thus the center of the vicious circle acts upon the periphery and the periphery upon the center.

If, in the past, failure has been the rule in the treatment of acute rhinitis and the disease has gone on and become the base of many serious chronic conditions, it is due to the fact that the deep causal elements have not been sought; the causal links in the pathologic circular chain have not been found; the pernicious circle had not been broken.

These considerations, however, do not in the least displace local treatment; but they do speak for rational and conservative local measures. If the pathologic strata in the Schneiderian membrane has become many

times superimposed, or if there exists nasal stenosis from whatever local cause, or if there is disease of the accessory sinuses, local operative treatment is rationally demanded; but even in these cases unless constitutional treatment goes *pari passu* with local measures, the apex is removed while the base of the pyramidal structure remains unshaken.

This one law, this fundamental law, controlling vital tissue, we must constantly remember; that tissue integrity, tissue resistance always determines, not only whether there shall be any inflammation at all, but whether that inflammation shall terminate as simple catarrhal, or go on to polypoid, suppurative or malignant degeneration. In the presence of this law the only treatment that will permanently avail is that which is aimed at the base of the diseased structure, —to the restoration and maintenance of the soundness of the tissues. The history of a nasal polypus or of a deviated septum runs a long way down the the pathologic chain, and will frequently be seen to have had its beginning in some constitutional taint in which the soft tissues and bones went wrong. It is not claimed that this law of tissue resistance of the organism is a new one; it is as old as modern pathology, but the plea is that it be made the basis both of preventive and active treatment of acute rhinitis. These considerations, which in the minds of some are still theoretical, have to me become substantiated facts, from the rather large opportunity I have had in the past few years for the study of typical cases, and applying constitutional treatment.

During a period covering the six winter months of 1895 and 1896, when the atmosphere of Berlin was unusually damp and cold, and still mildly charged with the influenza bacillus, the clinics of Fraenkel and Krause were constantly crowded with patients suffering from acute colds. In the numerous cases, which then came under my observation, I sought to secure an etiologic classification, based on answers to questions put to the patients, and by other usual tests to prove the presence, or absence, of the temperaments and diatheses. In the notes taken the disease was thus classified as subjective, when the cause or causes were purely internal; or as objective when they were external, and mixed, when the cause or causes were both internal and external. In referring to the cases which were regarded as typical, and which were thus carefully classified, an approximate résumé would be as follows:

Seventy per cent. clearly pointed to one or more constitutional conditions as the cause, while 15 per cent. appeared to be due to one of the many external irritants, through the medium of the atmosphere or contagion; 90 per cent. of these cases were acute exacerbations engrafted upon chronic conditions in the nose and throat, and always gave the familiar history of repeated attacks. Those which appeared to be due to pure and simple external exciting causes gave the history of the inhalation of fumes of irritating drugs or other atmospheric irritants, or extension of inflammation from bronchitis or laryngitis; of measles, scarlatina, whooping cough, or of the inhalation of hot, dry air or exposure to cold and to the influenza bacillus. In the laboratories of Dr. Alexander repeated microscopic examinations of the secretions were made to discover the bacillus, which Hajeck believes to be responsible for acute rhinitis, but even in initial cases many other bacilli were seen, among them, the pneumococcus of Freidlaender. A few trials to produce the disease in animals by Hajeck's diplococcus completely failed. In about 25 per cent. of the cases, classified as constitutional, one or more of the exciting causes were found to be present, but in much the larger part no such history could be elicited; there was always the familiar answer "I don't know how I caught cold;" but there was always the significant fact that the constitutional cases gave the history of repeated attacks, while those cases which were put down as local had seldom suffered from colds. We have spoken of scientific methods of diagnosis—that they enable us to ascertain the true causes of acute rhinitis, and that they confirmed the above principle of treatment. It must be acknowledged, however, that all modern scientific methods, advanced as they are, can only give us an approximate etiology, but the claim is that treatment based upon this has been eminently successful in effecting a permanent cure of acute rhinitis and its multitudinous concomitants.

34 Washington St.

NON-SPECIFIC PERFORATION OF THE NASAL SEPTUM.

Presented to the Section on Laryngology and Otology, at the Forty-eighth Annual Meeting of the American Medical Association held at Philadelphia, Pa., June 1–4, 1897.

BY J. R. STRAW, M.D.
ASHLAND, WIS.

Perforation of the septum, either specific or non-specific, seems to have been considered of so little importance that few if any of our authors have given it more than a passing notice, in fact, all that I have consulted have dismissed it with only a paragraph or two at most.

Before I located on the south shore of Lake Superior, nearly four years ago, I had been taught to believe that practically all perforations of the septum were of specific origin, and up to that time was satisfied with that theory, and for several months after locating in Ashland, Wis., I continued to treat my cases accordingly. While I was soon impressed by the large number of perforations I found, I also discovered a supposed satisfactory explanation for them. Several Indian reservations surrounding our city, the inhabitants of which I had no doubt from another and correct ancient teaching, were thoroughly infected with syphilis, and that it would be somewhat disseminated among the superior race; however, after having lived there long enough to become acquainted with the people I found that the average white man in that section was about as moral and virtuous as elsewhere, and has little or no occasion and no disposition for social or other connection with this race.

After I had become well acquainted with the descendants and antecedents of some of the people who bore this "suspicious mark," I was forced to abandon the theory of syphilis in a number of them, and look for some other cause.

Very few of my patients were aware of the perforation, but came to consult me about their "catarrh in the nose," or some throat or ear trouble.

A large number of these perforations were in the anterior and cartilaginous portion of the septum, and a great many of them had cicatrized and showed no disposition whatever either to break down or advance, and even if there were unhealthy granulations, specific treatment did little or no good, so I began to resort to the galvano-cautery, and a protective dressing, such as unguentum. In a short time, without the

specific treatment, the season being propitious, the borders of the perforations became smooth.

In regard to the etiology of these cases, I believe it is primarily due to our climate, which during three or four months of the year is extremely cold, the thermometer ranging during this time, from 0 to 30 and sometimes even 40 degrees below, and one who is out any length of time is liable to have the tip of the nose frozen; this is usually considered a very trivial matter. I think this freezing and thawing process has a tendency to produce erosions of the mucous membrane and breaking down of the cartilaginous portion of the septum, or the inspissated mucous adhering to the anterior portion of the septum and the patient's continued picking at it abrades the surface and leaves the sensitive papillæ exposed to a temperature 15 or 20 degrees below zero, which, I have no doubt, freezes them every time the patient exposes himself to this extreme cold.

I have treated a number of cases during my three winters in this section, that were going through the disintegrating process. I at first thought that to destroy or burn over this denuded surface would cause it to heal, but after repeated trials discovered that this mode of treatment was only adding fuel to the flames, and that it was useless to do anything with the view of effecting a cure during the winter months, and I now do nothing more than protect the parts with some simple ointment and have the patient plug the affected side with cotton whenver he goes out of the house if the weather is cold. When the winter is over, which is usually about May 1, I then apply the galvanocautery followed by an antiseptic dressing, which usually effects a cure.

PRACTICAL VS. THEORETICAL TONSILLOTOMY.

Presented to the Section on Laryngology and Otology, at the Forty-eighth Annual Meeting of the American Medical Association, at Philadelphia, Pa., June 1-4, 1897.

BY J. HOMER COULTER, A.M., M.D., Ph.D.

PROFESSOR OF RHINOLOGY AND LARYNGOLOGY, CHICAGO CLINICAL SCHOOL. CHICAGO, ILL.

I doubt if there is any one subject in medicine and surgery more prolific in the way of literature than that of the tonsil. Hence to claim the addition of anything new to the subject would either savor of presumption or a limited acquaintance with current medical literature. In the past ten years there have been published over six hundred papers on various points relative to the tonsil. When we consider the volumes such an amount of literature means we are driven to the conclusion that either the tonsil is a most important organ, or it is an unusually frequent victim of pathologic conditions. The generally accepted reason is the latter; especially, since if we claimed the former we must of necessity be able to thoroughly establish its functional character and capacity.

A very brief, and necessarily somewhat incoherent, reference to the etiology of enlarged tonsil seems necessary. At the same time we must recognize the fact that any pathology we may seek to establish must be subject to criticism, since an uncertain physiology precludes the possibility of a reliable pathology.

Before inquiring as to what is, or what the cause of, an enlarged tonsil, let us fix in mind an ideal of normality. Opinions on this point are varied as is the number of observers. Bosworth, Woolen and others claim there is normally no tonsil present on inspection. The greater number of writers, however, admit the existence of a protruding glandular or follicular collection of lymphoid tissue between the pillars of the fauces. Wagner has discussed at considerable length atrophy of the tonsils, but it is difficult to imagine how there can be a question of atrophy unless there was some considerable tissue previously present. In many cases there is not a real hypertrophy, but only an enlargement in the tissues already there; again, there will be a distinct hypertrophy, or actual formation of new tissue elements. It is not the purpose of this paper to discuss the cause of or differentiation of this condition. They do exist, and even hypertrophy and hyperplasia may frequently be seen in the same tonsil. Nor is it always an easy matter to distinguish between the two. Certain it is, however, both are pathologic and both demand and are amenable to surgical interference. A consensus of opinion would seem to indicate that the normal tonsil is a collection of racemose glands or follicles occupying and filling the space between the faucial pillars. Hence, when the tonsil protrudes beyond the pillar it is abnormal and pathologic. Remembering, however, that in very many instances the pillar is firmly adherent to the tonsil, we may then have a decided increase in the volume and yet no protrusion beyond the pillar.

I wish to particularly emphasize a point in the anatomy of the tonsil, the importance of such distinction will appear later. It has usually been referred to as an olive-shaped body. As a matter of fact, which dissection either on the patient or cadaver will demonstrate, it is more nearly almond-shaped, *i.e.*, somewhat flattened and larger at one end. This heavy end is uppermost, frequently buried well up under the pharyngeal aponeurosis.

Many excellent authorities have inclined to the opinion that a constitutional dyscrasia, usually the uric acid, is by far the most frequent and potent etiologic factor. The etiology, even though hypothetic, may be summed up in these two propositions: 1, an underlying constitutional dyscrasia; 2, a micro-organism in the follicles, producing in either case either an hyperplasia or an hypertrophy.

Dr. Stucky has claimed that, "of all diseases of the upper air passages none is more conducive to serious after-effects than pathologic tonsils." In health there is doubtless a certain amount of lubricant furnished by this collection of racemose follicles. But if it be diseased what good can come from its forcing upon the bolus of food or into the stomach an excretion of pus cells, cholesterin, epithelium and the various other products of waste and disease? Dr. Turck, demonstrated that, "the diseases of the mouth, nose and throat do often play a most important part in the etiology of chronic glandular gastritis." He further called attention to the fact that "the oral cavity, espepecially when infected, is a perfect incubator of disease germs." If such facts are demonstrable concerning the pharyngeal mucous membrane, how much more serious must be the secretions and excretions of the tonsillar follicles and crypts when diseased?

The symptoms and appearance of a tonsil demanding extirpation are matters of such universal knowledge that any further reference to them at this time seems superfluous. Admitting that its true etiology is the uric acid diathesis, the entire lymphatic system

in which we find the tonsils, joints, serous cavities and ileocecal glands is likely to be involved, and hence such admission only emphasizes the necessity for surgical interference. At the same time it should also warn us that pathologic tonsils compel us invariably to look for pathologic complications elsewhere in the system.

This leads us to the further fact, that in case a constitutional dyscrasia does exist it must be treated as such independently of any presumable tonsillar complication. A tonsillotomy, no matter what the method employed, will not complete the cure of such dyscrasia. Nor is there any doubt of the bad effect such dyscrasia or diathesis has upon the tonsil as well as upon the general health of the patient.

The neuroses due to enlarged tonsils are so varied, frequent and positive that it is no longer questioned that such do exist. Respiration is often affected. Phonation is most important, perhaps. I have never seen a case in which phonation was impaired that there did not occur a marked improvement in the voice, by thorough operation, both in its production and quality. Some laryngologists think the pitch of the voice is lowered by ablation of the tonsil. My experience, especially in professional singers, does not corroborate such a statement. I believe the added ease and increased clearness with which the voice is afterward formed will in reality raise the voice register by the same expenditure of effort, but only so in those cases in which the gland has been thoroughly eradicated. I can easily conceive why and how the register might be lowered in case the pillars were not freed from their adhesions, and a stump of hard unyielding, cicatricial tissue is left between the pillars. The ocular and aural disturbances attributable to this cause are frequently met with, and often yield most satisfactory results to the surgeon. Cough, I believe to be one of the most frequent and persistent of all the complications. It is, though not so frequently as formerly, urged by some presumably intelligent physicians, that the tonsil, if left alone, will atrophy later and thus cease to be a source of annoyance. But I scarcely think such advice is general, and could not be when once is seen the almost universal improvement in general health which their complete, and often even partial, removal produces.

A partial destruction of the gland, by whatever method is used, will oftentimes do more harm than good, and can not in any case accomplish all the possible good.

Whether the tonsil be a blood-elaborating organ, as some presume, or an assistant to digestion, or a lubricating fountain, or a leucocyte guard to the system, the presence of a pathologic condition precludes the possibility of its functional activity and demands removal, since no known medicinal remedy can restore that organic or functional capacity as it has become a veritable microbe trap. Though such a statement may seem to be rather sweeping and comprehensive in its compass, it admits of but few exceptions. As such, however, may be mentioned a tendency to or presence of malignancy, and even in the cases where surgical interference is deemed advisable, no other method affords nearly the hope of success of that suggested by this paper. Unusual vascularity or pulsation in the tonsil should be looked upon with suspicion in every instance. An acute inflammatory condition is always an indication for temporary postponement and at the same time is as positive an indication for subsequent operation. A prevalent epidemic would also suggest temporary delay.

I will call your attention to the various methods which have received popular recognition at the hands of surgeons. Celsus was wont to gouge out the gland with his finger, evidently considering it a nucleated structure. This is, however, too barbarous to receive notice further than for its historic interest.

Doubtless the most popular method is by means of the guillotine, in one or another of its many forms. The objections to this instrument are that one can not remove all the gland, except in rare instances; it often leaves a bruised edge, sometimes ending in a slough; again, you are never quite certain of the amount of tissue you are going to remove; the pillars are very apt to be injured by it; the danger of hemorrhage is not insignificant, though not as great as when the bistoury is employed; if the tonsil be of that soft, flabby character often seen, or if it be small and adherent to one or both pillars the tonsillotomy becomes *perforce* practically useless. However, notwithstandidg these real or apparent objections, I am convinced there is no method better adapted in case of young children under 8 or 10 years of age. Ignipuncture has attained more or less popularity, but it is an endless process at best, as one is never certain that all of the diseased follicles have been destroyed; it leaves a rough, ragged surface and the capacity for the absorption of toxins practically undiminished; it also leaves a portion of the tonsil to be absorbed, or to act as a focus for future inflammations. The cold wire snare has no advantages that are not possessed by other methods, and is in addition an extremely painful procedure; the danger of secondary hemorrhage is doubtless as great as by any other method. The cautery loop has been highly praised by Knight, Wright and others. It is certainly in many cases an excellent method, though some of the objections urged against the tonsillotome are equally applicable to the cautery snare. The knife as a means possesses such patent and potent objections that more need not be said. In the same category may be placed the use of destructive caustics and strong astringents or interstitial injections of various medicaments, no one of which will more than partially remove or counteract the pathologic condition, and to the extent they fail in this particular, they, as well as any and all other methods, fall short in accomplishing the greatest possible good and are to just that extent impracticable. Every operator sooner or later, plainly or by inference, admits the necessity of removal of the entire gland if possible.

I am convinced that it is possible, for the very forcible reason that experience has demonstrated it most conclusively. Several years ago Dr. Pynchon of Chicago suggested a method which was original, and which an experience of over two hundred and fifty tonsils in the past two years convinces me, possesses some advantages over all other methods yet suggested. Dr. Pynchon gave a detailed account of the technique of his operation in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for Nov. 22, 1890. Improvements in some minor points have in that time been suggested by the experience of both Dr. Pynchon and myself, and I will briefly describe the operation as it is now performed.

The tonsils as well as the pillars have been thoroughly anesthetized by the external application of a 30 per cent. solution of eucain well rubbed in and

the submucous injection of a few drops of a 10 per cent. solution into the upper portion of both pillars and tonsil; the tonsil is drawn well out into the throat and the pillars are both carefully dissected away from the tonsillar body to about one-half its extent. The electrode point being entered cold and burning out, as a usual thing. The upper point of the tonsil is then grasped with an appropriate forceps and employing the same traction as above referred to, the distance from the carotids is not only increased but a much better view of the field of operation is then obtained, then by a slow dissection enucleate the part, much as an ophthalmologist would enucleate an eye. Remembering always that the large end of the tonsil is uppermost and well imbedded high up under the pharyngeal aponeurosis; and further, that any of its tissue left will not only detract from the cosmetic as well as practical results of the operation, but will as well probably be a source of future trouble. After thus completely separating the upper portion to the extent of one-third or one-half of the gland, cut off the loosened part and apply to the surface a solution of silver nitrate, 6 grams to 30 c.c. water, after applying a coating of campho-phenique. The amount to be removed depends on the size and condition of the tonsil as well as upon the temperament of the patient. I have found that there was but little complaint of soreness if not more than one-third or at most one-half of the tonsil was removed at one séance. The remainder is treated in a like manner at a subsequent sitting. The length of time between the steps of the operation differs, but in ordinary cases a week is quite sufficient for the healing process, especially if the patient comes to the office for treatment meanwhile. This inter-operative treatment is not so necessary as it is desirable, as I find a thorough cleansing and dressing of the wound assists materially in its healing, as well as reduces the soreness to a minimum. At these treatments the application of massage with a cotton-wrapped probe will help in giving a smooth surface to the parts after they have healed.

This method seems to be adapted to a larger percentage of cases for removal than any other now in common use. For the reasons already given it is the most practical in securing all of the pathologic tissue. The principal objections to its employment have been that it is not adapted to young children; this I consider the most valid objection that has come to my notice. The youngest patients I have known in which it was used were 10 and 12 years of age. The soreness and pain following the operation are not as severe as one might expect from treatment apparently so heroic. If the daily treatments are given, oftentimes there is no complaint whatever.

Very often the removal of one tonsil will effect a very considerable decrease in the size of the other. It will also have, at times, an almost miraculous effect upon a pharyngitis or other inflammatory action in the contiguous structures. Middle-ear difficulties seem especially amenable to its beneficent influence.

In closing allow me to call attention to several points which experience has taught me, will assist in giving the most desirable results.

1. Do only a small amount at each heating of the electrode—work five seconds and allow the patient to rest fifteen seconds.

2. Burn only where you can see just what you are doing.

3. Use an electrode bent at right angles and having a fine point. (At least three electrodes are desirable for the operation.)

4. Do not attempt too much at one sitting.

5. A strong solution of silver nitrate is an excellent hemostatic in case there is slight hemorrhage.

6. Be sure the electrode is thoroughly heated when you attempt to burn.

7. Cut off the portion loosened at each séance; it prevents healing by its friction, and is often an annoyance to the patient.

8. Do not operate if the gland be acutely inflamed.

9. Always remember the normal shape of the tonsil; and that one must dissect much more deeply at its superior portion in order to get all of the pathologic tissue.

10. It is sometimes best to cut from below upward while taking out the inferior portion; in this convenience should be the guide.

11. By care, the operation may be rendered almost if not entirely bloodless.

12. The indication in all cases is eventual total ablation.

13. Succeeding steps on the same tonsil should not be more than ten days apart.

14. When hemorrhage occurs, stop the bleeding at once with the heated electrode, and apply a solution of silver 6 grams to water 30 c.c., or stronger.

15. Try the method, in suitable cases, and I feel confident you will concur with me in the opinion that it possesses some advantages not found in any other.

103 State Street.

DISCUSSION.

Dr. GOODALE—I have recently completed some experiments which convince me that the tonsil does absorb through intact mucous membrane. Substances in the crypts are absorbed continually, under normal conditions, into the tonsils.

Frankel, in a paper published last year, stated that he had removed inflamed tonsils without any bad results. I have also removed a large number of inflamed tonsils without harm. I think there is no objection to removing these masses of putrefying material and getting them out of the system. I think my cases have improved and recovered more rapidly than if I had not operated.

Dr. LAUTENBACH—The question of absolute and complete extirpation of the tonsil is probably the most important which will come before this Section. The method which Dr. Coulter has advocated is the best for difficult cases. An important point is to get the tonsil into position. I have an instrument which I find valuable for this purpose, especially in the cases of children. The method I usually adopt is to remove all I possibly can at one time, either by the tonsillotome, the guillotine or the scissors. The fragments can be burned out with the electro-cautery at the same sitting. I think that in this way there is less inflammatory trouble. The patient is usually willing to stand one full rather than several partial operations. This is especially true of children.

Dr. ROE—I do not advocate the use of the cautery for the removal of tonsils, for the reason that I do not regard it advisable to reduce the tonsil or to replace it by scar-tissue. On removing the tonsil with a cautery there must be a very extensive burn, leaving cicatrix behind that often causes much trouble. The plan that I have adopted on removing tonsils is first to enucleate them from all adhesions to the pillars of the fauces. This I do with a slender instrument having a curved but a blunt tip. By so doing we lessen the danger of wounding the pillars of the fauces, which is the main source of hemorrhage after tonsillotomy. After this is done I either excise the tonsil with a bistoury or remove it with a cold-wire snare. By this method it is exceedingly rare that the operation is followed by any hemorrhage, and by the use of the snare it is unusual to have any hemorrhage at all. I always remove at one sitting every portion of the tonsil requiring removal. If you remove the diseased portions at different times, you have a series of sore throats, which is entirely unnecessary. There are many cases of diseased tonsils unattended with hypertrophy, which cause a great deal of disturbance in the throat. This tissue can readily be seen by pressing back the pillars of the fauces or by drawing out the diseased tissue with a tenaculum.

The importance of the removal of this diseased tissue has also been corroborated by Harrison Allen. I have seen a number of such cases in vocalists, in which very marked vocal disability was entirely relieved by the removal of this diseased tonsillary tissue. In the removal of this tissue and the use of the knife and the tonsil punch forceps is much superior to any other method, and especially to the galvanic cautery; for the reason that the cicatricial tissue caused by the use of the cautery interferes with the proper action of the pillars of the fauces, thereby causing more or less rigidity of the parts and consequently seriously affecting vocalization.

Dr. RICHARDSON—I have found that the most unsatisfactory cases were those in which the pillars of the fauces were attached to the anterior surface of the tonsil. I saw Dr. Roe operate in Rochester, and was so delighted with the procedure and with the complete separation of the pillars from the tonsil, that I obtained one of the instruments used by him. I have used the instrument since with a great deal of satisfaction, especially where there were strong adhesions between the anterior pillars and the tonsils. It is in these cases that we have the greatest difficulty and the greatest danger of hemorrhage. In the simple drawing out of the tonsil the pain is not very great and there is little or no bleeding; while we know that by the galvano-cautery method the pain is exquisite for hours and sometimes days afterward.

Dr. WOOLEN—As to the use of the cautery, I think the truth was well formulated by an assistant of mine who said: The difference between the galvano-cautery and the scissors or other cold instruments is that with one we have a wound, and with the other a wound *plus* a burn, a distinction always worthy of special recognition.

Dr. DALY—There is no operation for the removal of tonsils that can not be well and efficiently done with four instruments, two knives proper length, a tenaculum, and the curved rat-tooth forceps. An enlarged tonsil is not part of a normal throat. First, remove the tonsils; second, do it quickly and effectively by the most painless method you can adopt; but last, and most important of all, leave the throat and fauces in the anatomic condition in which nature intended them to be.

Dr. CLINE—I have made liberal use of the actual cautery, and have found it valuable in certain cases. It doses no harm if you use it in the proper manner. I have never had any serious results from a burn, provided I did not burn anything I had no business to. This is true also in regard to the nose. I separate the tonsils from the pillars, and then use the tonsillotome instead of dissecting out the tonsil. Unless you have the patient anesthetized, or well cocainized, there will be difficulty in removing the tonsil by enucleation. Take the tonsil out with one stroke of the tonsillotome and then if after that there are any of the crypts left remove with the actual cautery. I see no objection to taking out an inflamed tonsil, particularly if it is hypertrophied.

Dr. GIBBONS—I approve of Dr. Roe's method of separating the pillars. In doing this I use a tonsillotome that is not sharp. I generally take a small piece of pine wood and twist it around the edge to dull it. The cold snare requires a strong hand. I have seen Bosworth find difficulty in using it. I have often thought that the snare could be improved by using hydraulic force. I use electricity very seldom, except sometimes to separate the pillars. I sometimes use the snare.

Dr. RICHARDS—The Leland tonsil knife answers very well in certain of the flat tonsils, where the ordinary tonsillotome is inadmissible. This knife, which is short, curved, probe pointed, set at right angles to the handle and made right and left, is introduced into a crypt and pushed along the curve and allowed to cut its way out. This is successively done until all the crypt are entered. The resulting tabs of tonsillar tissue are readily removed with curved scissors. Originally I followed the use of the knife with the galvano-cautery point, carrying it to the bottom of each crypt operated on. This was rather painful and followed by more or less inflammation, in one case by peritonsillar abscess, so that I now rarely use the galvano-cautery for this purpose. With this method the operation is almost painless and can be completed in one or two sittings.

THE CHAIRMAN—I have removed tonsils by all methods, and am satisfied with none of them. There is something to be said in favor of each method, and each has its disadvantages. I have adopted the expedient of selecting my cases. In those where I think hemorrhage is liable to result the cautery in some form is selected. In children the tonsillotome is the best instrument. As to Frankel's statement that he had had no bad results from the excision of acutely inflamed tonsils, I do not understand that he advises the operation in this condition. He used it as a means of securing specimens for bacteriologic investigations, not as a remedial measure.

In reference to the separation of the pillars from the tonsils, if there is any muscular substance involved, I separate it, but if there is simply mucous membrane, I do not think it is necessary to subject the patient to this additional procedure. In many cases the membrane is reflected from the anterior pillar and makes an envelope for the tonsil, it contains no muscular substance and I see no objection to making the ablation through this structure.

Dr. COULTER—I think that Dr. Goodale misapprehended my ideas in reference to the absorbent power of the tonsils.

After the removal of tonsils in an inflamed condition, you necessarily add to an already dangerous condition if you then apply the cautery. My ideas of pathology would not lead me to operate on an acutely inflamed tonsil.

The tonsil is a gland, not made up of any part of the pillars but distinct anatomically from them, and you can use the cautery without fear of producing any cicatrix. If you do not destroy any muscular tissue, you have no cicatrix. With the knife you can not do this. If you have hemorrhage, you can not see where you are operating, and will either destroy muscular tissue or leave some of the tonsil, either of which is undesirable.

A CASE OF CHRONIC ABSCESS OF THE TONGUE.

Presented to the Section on Laryngology and Otology, at the Forty-eighth Annual Meeting of the American Medical Association held at Philadelphia, Pa., June 1–4, 1897.

BY C. W. RICHARDSON, M.D.

PROFESSOR OF LARYNGOLOGY AND OTOLOGY, COLUMBIAN UNIVERSITY, WASHINGTON, D. C.

I offer this single case of chronic abscess of the tongue for your consideration, on account of the infrequency of its occurrence and the peculiar train of symptoms which attended its final termination. A chronic abscess of the tongue is a small rounded or oval tumor situated deep in the base on the dorsum of the tongue, anterior to the circumvallatæ papillæ, filled with pus in which fluctuation is present or absent according as the pus is, or is not, tightly pocketed and of several years' duration. According to Butlin this disease is a very uncommon one, and is most frequently observed in adults. Butlin states that the commencement is insidious, and that there is seldom any history of inflammation preceding the onset. In the case which I report I knew of the existence of the abscess for over a year before the pus was liberated or any acute symptoms developed, and the patient states that she had known of its existence since early childhood.

During the fall and winter of 1889, I was treating a young woman 18 years of age for a nasal and post-nasal catarrh. On the paternal side there was a strong tubercular history. The patient had the usual diseases incident to childhood. At the time of her first visit I noticed a prominent oval elevation in the center of the dorsum of the tongue just anterior to the circumvillatæ papillæ. This mass was about two centimeters long, about one centimeter in breadth, and projected above the surface of the dorsum of the tongue about one-half centimeter at the most elevated point. The mucous membrane over the mass was paler than over the remaining surface of the tongue and was very tense. The tumor seemed tense, deeply seated and no fluctuation could be detected. The woman stated that this mass had been noted in her tongue since early childhood, and as it had caused her no inconvenience she did not care for surgical interference. As the growth seemed in no way to interfere with functions, and offered no obstruction to the proper treatment of the throat I respected her wishes. I diagnosticated the growth to be either a dermoid or a simple cyst.

December 15, 1889, ten days after the patient had been discharged, I was called to see her on account of an intense earache. In the morning she had noticed considerable soreness in the lateral walls of the pharynx, which as the day wore on became more intense and radiated toward the ears. I examined the pharynx and found it quite normal in appearance both in the oro- and naso-pharynx. The auditory canals and membranes were normal. Hearing normal. The patient was evidently suffering, and I was perplexed.

December 16. Patient reported at my office in the morning. Had passed a sleepless night. Evidences of pain very marked. Had taken no food for twenty-four hours. Temperature 99.8. Nose, naso-pharynx, oro-pharynx, larynx, auditory canals and tympanic cavities normal. Now all the pain was referred to the ears. The growth at the base of tongue appeared about the same as usual.

December 17. Patient's appearance as she sat in waiting room gave me great concern. Her expression was one of extreme anxiety, and her face bore evidence of great suffering. The hypodermatic use of .016 gram of morphia the night before had given only a transitory relief. The organs giving rise to painful sensations all appeared as normal as ever. Temperature 100. While examining the patient's pharynx the happy idea occurred to me that the mass at the base of the tongue might be the cause of all the trouble, although appearing perfectly benign. Introducing my index finger into the mouth I essayed to make compression on the growth, when the patient gave evidences of the most intense pain. I immediately laid the abscess open through its anterior two-thirds, resulting in the evacuation of several drachms of a very offensive, thin, watery pus. The symptoms were immediately ameliorated.

December 18. The day and night's rest had worked a marvelous change in my patient. She willingly submitted to a thorough laying open of the abscess cavity, which was then thoroughly curetted and packed with iodoform gauze. From this date the patient made a rapid and complete recovery. Swelling disappeared, and at the present writing shows only as a slightly elevated linear cicatrix. The patient is now under my observation, and the cicatrix is all that shows of the former condition.

The most interesting feature of this condition is the fact that the abscess remained quiescent so many years and then took an active course. It is also interesting to observe that all the symptoms produced by this change in the nature of the abscess were referred away from the seat of the disease. There was no change in the appearance of the tissues over or about the seat of the abscess, nor was there any spontaneous or superficial pain in the part of the tongue affected. It was only when firm and great pressure was made that any evidences of pain were demonstrated.

1102 L. Street, N. W.

DISCUSSION.

Dr. WOOLEN—Possibly this case was not an abscess for all these years. I have a case of blood cyst, or perhaps more properly varix of the tongue, which I have watched with solicitude for many years for fear it would rupture. Possibly Dr. Richardson's case may have begun in that way. I can hardly understand how an abscess could exist for so many years and pus be carried in it all that time. I think it likely that there was degeneration of some cystic formation. In my patient the growth is bluish in appearance, has evidently liquid contents, and is the size and shape of a teaspoon inverted on the tongue. It is pulpy and fluctuates as blood fluctuates. It gives the patient no inconvenience, but I fear rupture either spontaneously or artificially.

Dr. W. H. BRYAN—I can hardly conceive of an abscess existing as such for so long a time. It is possible that there may have been a cystic condition from which has developed a septic inflammation at a later interval.

Dr. D. BRADEN KYLE—I have only seen one case of abscess of the tongue and that was tubercular. Not only the tonsil but the cervical glands were involved, although the glands did not suppurate. Six weeks before operation marked symptoms of abscess at the base of the tongue had developed. The abscess was opened and contained cheesy material in which tubercle bacilli were found. This was a so-called chronic abscess, but it was really an acute condition at the time it was opened.

Dr. MAX THORNER—I have seen two cases of chronic abscess of the tongue. One was produced by a foreign body. There was swelling and all the symptoms of abscess at the base of the tongue. The symptoms had been present for half a year. I found a fish-bone embedded in the abscess. In the second case there was a chronic abscess of the base of the tongue of ten months' standing, which was no doubt tubercular. There was great difficulty in healing the wound, which closed superficially leaving a fistulous opening. I could get no detailed account of the history.

Dr. C. W. RICHARDSON—I had also thought at first that my case was probably a broken down cyst that had undergone suppuration, but after looking up the subject I came to the conclusion that it was a chronic abscess, for several reasons. Cysts are usually situated where the glands are more prominent and more numerous. They are more on the surface than this, which was embedded in the tongue, or to use Dr. Woolen's description, looked as though a teaspoon had been placed on the surface of the tongue. I am ready to accept the diagnosis that the condition may have been tubercular. In fact this young woman has a strong tubercular history on the paternal side. Nevertheless I think there is such a thing as chronic abscess of the tongue, and that such cases have been described, among them some which have existed for years before being opened.

CASE OF RECURRENT HEADACHE, EACH ATTACK BEING RELIEVED BY THE DISCHARGE THROUGH RIGHT NOSTRIL OF A FLUID FROM THE CRANIAL CAVITY.

Presented to the Section on Laryngology and Otology at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

BY W. SCHEPPEGRELL, A.M., M.D.

NEW ORLEANS, LA.

The case which I report is so unusual that I am unable to find a similar instance in the records of medical literature. The case is one of recurrent headaches of a most violent character, each paroxysm continuing until relieved by the discharge of a watery fluid from the right nostril.

The following is the interesting history of this case: Sister M. J., a member of a holy order, suffering from deafness and an affection of the throat, was referred to me in January, 1893. While treating these conditions, from which the patient soon recovered, she called my attention to the repeated headaches from which she suffered, and to the fact that they were relieved by the discharge of a straw-colored fluid from the nostrils.

In February, 1885, the patient suffered from a most agonizing headache, which persisted in spite of the efforts of several physicians The pain at times became so severe that the patient was entirely oblivious of her surroundings. This continued for three weeks, and was relieved by an accident which appeared almost providential. While descending a stair, the patient fell down a considerable distance, her head striking against a stone jar at the bottom of the staircase. The fall was so severe that the patient was unconscious for several seconds, but when she revived, she observed that there had been a profuse discharge

of a yellow watery fluid from the nostrils, and that the headache, which had persisted for three weeks, had entirely disappeared.

Five or six weeks after this occurrence the headache developed again, the symptoms being the same as in the former attack, but at the end of the fourth day there was a spontaneous discharge from the nostrils, principally from the right side, and again complete relief. These attacks recurred at varying intervals, the intermissions sometimes being only twenty-four hours, and rarely more than two weeks. The headaches persisted from three to five days, and sometimes as long as ten days.

Various remedies were prescribed for the relief of the patient, but without success. The discharge of the watery fluid from the nostrils, at the end of the attacks, did not appear to have attracted the attention of the attending physicians, or if it did, was considered as a mere coincidence.

On account of the unsuccessful efforts to relieve this condition, the patient finally decided to make no further attempts to relieve this affection, which made her life a burden.

In describing her symptoms to me, the patient stated that when these headaches commenced there was a feeling of stiffness in the neck near the collar bone: then the pain seemed to ascend until it formed a focus in the upper part of the head near the crown, and produced a sensation as if a boil were forming, the pain extending over the whole upper part of the head, and her eyes could be kept open only with difficulty. The face is flushed, but there is no elevation of temperature. An ophthalmoscopic examination gave negative results, and there was no exophthalmus.

From a careful study of this case, the conclusion was evident that there was direct cause and effect between the watery fluid, which afterward discharged from the nostril, and the recurrent headaches. The quantity of liquid discharged (about one ounce) indicated that an accumulation formed in a receptacle of about this capacity, and that the pressure was instrumental in causing the violent pain, and that relief was due to the discharge of the fluid.

From the location of the pain, my first impression was that the sphenoidal cavity of the right side was the cause of the symptoms complained of, and when I explained my view to the patient, she readily gave her consent to an exploratory puncture into this cavity, with a view of obtaining relief.

The opening of the sphenoidal cavity, as well as the other operative procedures, were undertaken during a paroxysm of headache, while there was evidence of strong pressure, so that liberation of the fluid and the subsequent relief would show that the seat of the trouble had been reached.

After thorough cocainization of the right nasal cavity, a long trocar, with the point slightly bent upward, was passed close to the septum at the level of the middle turbinal and then directed upward in the posterior upper part of the nasal cavity. With some pressure and a slight rotary motion, the wall was perforated and the free entrance of the trocar showed that the sphenoidnl cavity had been reached. The trocar was then withdrawn and the canula left in place, but there was no discharge of the liquid.

A probe was now passed into the cavity, which appeared to be normal. There was no discharge of fluid, and the patient experienced no relief from the headache. The operation was done with due regard to asepsis, and there was no reaction or ill effects.

As there was considerable pressure about the eye, and from the fact that pain is sometimes referred to another locality by the patient, I then decided to open the frontal sinus. After an ineffectual attempt to catheterize this cavity from the nostril, the frontal sinus was opened externally under chloroform. A vertical incision was made over the inner superciliary region of the right eye, the skin and periosteum drawn back and an opening through the outer wall of the sinus was effected by means of a small trephine. There was no discharge of a fluid.

A probe passed through this opening entered the nasal cavity without difficulty. The periosteum and skin were then carefully stitched, and the wound healed by first intention. The scar was scarcely noticeable, but there was no relief from the headaches.

Although an affection of the ethmoidal cells could not readily explain the symptoms, still in view of the intense suffering of the patient, and her almost total disability to perform her duties, every attempt was made to relieve her. The ethmoidal cells were opened without success, and the antrum of Highmore was catheterized without giving relief.

While making a preliminary report of this case before the Orleans Parish Medical Society, a physician, in the discussion, stated his opinion that the symptoms might be of hysterical origin, and that there was no evidence, besides the word of the patient, that there was a discharge from the nostrils at the end of each paroxysm of headache.

Though this opinion was contrary to my belief, I decided to obtain corroborative evidence, and had the patient, during one of the attacks, placed in a private ward of the Eye, Ear, Nose and Throat Hospital, under the charge of two trained nurses, who were instructed never to leave the patient and to watch carefully for the discharge of the watery fluid from the nostrils.

At the end of three days the watery discharge was seen by the nurse, and a portion of it saturated a towel on the bed.

Having now excluded the various accessory sinuses, the probability of this discharge coming from the cranial cavity, which occurred to me from the early history of the case, became more fixed, and I decided to obtain a specimen of the discharge for microscopic examination. With this view, the patient was instructed to have a vessel always with her during the next paroxysm and, if possible, to catch the fluid so that a careful examination could be made.

The second attempt was successful, the larger part of the liquid being discharged into a bowl and soon after brought to me.

The fluid had a specific gravity of 1005, was slightly alkalin in reaction and contained a small amount of albumin. Chemically, the liquid resembled the cerebro-spinal fluid and the contents of the cranial lymphatic vessels in this region, which are almost identical in character. When this fluid was allowed to settle in a conical glass, there was a heavy white deposit; the clear supernatant fluid was of a pale straw color, and did not coagulate. The sediment consisted almost entirely of pavement epithelial cells, some occurring singly and others in flakes. A few red blood corpuscles were seen.

In a second specimen sent for examination, the admixture of blood was so large that it imparted a reddish tinge to the whole body of the liquid. In

this specimen, also, there was a heavy deposit of pavement epithelium or endothelium.

It has been shown by T. S. Flatau (*Deutsche Med. Woch.*, Leipzig, Oct. 30, 1891) that there is sometimes a communication between the subarachnoid space and the nostrils, and he quotes a case of hydrocephalus which recovered after an abundant serous discharge from the nose. The existence of such a communication is also demonstrated by Schwalbe, Key and Retzius. Naunyn and Schrieber were also able to inject warm salty solution into the subarachnoid space of the dog which was discharged at the nostrils, the phenomena being accompanied by a protrusion of the eye and chemosis. In investigations on the human subject, Flatau found that although injections into the subarachnoid space reached the nose, the injection of colored fluid into the nose did not lead to an entrance of the fluid into the arachnoid space on account of the barrier presented by the columnar epithelium.

Another case, which is interesting in this connection, is one of meningo-encephalitis consecutive to an exploration of a supposed frontal sinus, reported by Dr. Mermod (*Ann. des Mal. du Lar. et de l'Or.*, April, 1896). The following is a synopsis of the report of this interesting case: A man, 30 years of age, who had undergone the successive opening of the right maxillary, the left sphenoid sinus, and of the right anterior and middle ethmoidal cells, on account of a chronic suppuration of these cavities, was affected with a cephalalgia of the right frontal region, which diminished after a free evacuation of a clear nonpurulent liquid. Under the supposition that it was an affection of the right frontal sinus, a flexible shaft was introduced, which penetrated a large cavity resembling an enlarged frontal sinus.

A second exploration, made under the same conditions, to the depth of 6½ cm., measured from the entrance of the nostril, was followed by violent pain in the head, rigors and unequivocal signs of meningitis. A large trepanation was then made, and it was found that the frontal sinus was entirely wanting, and its place was occupied by the frontal lobes. A sound introduced from above immediately and without difficulty penetrated into the nostril.

The patient died twenty-four hours later. The autopsy showed a sero-purulent meningitis commencing from the anterior part of the frontal lobes; there was no traumatism of the brain. Although the exploration had been made with care, and under all necessary antiseptic precautions, it had been the cause of the meningitis. The liquid, which ran intermittently from the nose, had been a cerebro-spinal fluid.

From a careful analysis of the case which I have reported, I concluded that the fluid, which had caused the first attack of cephalalgia, had accumuluted in the cranial cavity, and that the fall had been instrumental in breaking though the barrier which existed between the liquid and the nasal cavity.

The point of differentiation, which now presented itself, was as to whether this fluid came directly from the subarachnoid space or from some cystic formation in this region, connected with the lymphatic circulation.

The subarachnoid space is the interval between the arachnoid membrane and the pia mater. At the base of the brain there is a wide interval between the two middle lobes, and also behind the hemispheres of the cerebellum and the medulla oblongata. This space is filled with a cerebro-spinal fluid, which fills up the interval between the arachnoid space and the pia mater. The subarachnoid space usually communicates with the general ventricular cavity of the brain by means of an opening into the inferior boundary of the fourth ventricle.

The conformation of this space and the extensive communication of its fluid, including even the ventricular cavities of the brain, would easily explain the depressing as well as agonizing character of these headaches, the effects of which were so severe that they almost entirely incapacitated the patient from duty.

If this fluid were discharged from the subarachnoid space, it was difficult to understand why the same quantity came from the nostrils after each attack, and also why the discharge ceased so abruptly and did not continue to drip for some time after the first pressure had been relieved.

This peculiarity caused me to believe that it was due to a cyst connected with the lymphatic circulation in this region. The foramen cecum is an aperture formed by the frontal bone and the crista galli of the ethmoid, and when pervious transmits a small vein from the nose to the superior longitudinal sinus If the efferent lymphatic vessel of the perivascular lymphatics surrounding this vein should become occluded, it would form a lymphangiectasis, which would continually dilate from the plasma oozing from the blood vessel surrounded by these lymphatics.

The location of such a cyst in this region would not only cause all the disturbances due to pressure in the subarachnoid space, but would also explain the limited amount of fluid which was discharged after each attack. The slight admixture of blood corpuscles evidently came from the ruptured point in the upper part of the nasal cavity.

When my conclusions had been formed in this case I declined to make further surgical interference. Learning that the patient had suffered from attacks of rheumatism, I suggested to her physician to push the anti-rheumatic preparations, which was done, however, without any beneficial influence on the recurrent headaches.

I have from time to time examined the nostrils of this patient to see whether, perhaps, the cyst might protrude into the nostril, as we know that continued pressure will sometimes cause absorption of even bony tissue, and that the attacks might be relieved by early incision, but this has not yet been the case.

Medical Building.

DISCUSSION.

Dr. GIBBONS—I am following at present a peculiar case of headache. Among the symptoms I find a suicidal tendency and also a fear of going insane. I think it is really a disease which ought to be termed "suicide," differing from melancholia in that really insane persons do not think they are insane, whereas these patients will tell you that they contemplate insanity or suicide.

The physiologic functions of this region are not well known. In my opinion, the cells have something to do with receiving from the air an electric current. They are grouped exactly like the cells of a storage battery, and I believe they have some such function. If Dr. Scheppegrell does not get relief after these operations, I believe it is because the enlargement of the cells or some other growth has not yet been reached.

Dr. J. SOLIS-COHEN—I would like to ask whether the possibility of specific disease has been eliminated.

Dr. SHEPPEGRELL—The attending physician had given iodid of potassium without effect.

Dr. J. H. BRYAN—Possibly it may be one of hydrops. Secretion may have taken place in one the deeper ethmoidal cells

which could not be opened. Hydrops is a very rare condition. I thought it did not exist until Dr. Herman Knapp made his interesting report of some cases, the history of one of which was very much like this.

Dr. MAX THORNER—There seems to be no doubt that the headaches were due to some intracranial pressure, though the ophthalmoscopic examination showed nothing unusual. In a case shown by Dr. Woakes in 1885 at the London Hospital for Diseases of the Throat and Chest, he considered the discharge from the nose to be cerebro-spinal fluid, in a case that bore close resemblance to the one reported A chemic and microscopic examination, if I remember rightly, was not made at the time. The discharge occurred intermittently and was always preceded by headache. A communication between the arachnoid space and the lymphatics of the nose has been proved to exist by Flatau's magnificent demonstrations, made at the International Medical Congress at Berlin, in 1890. This fact accounts for many otherwise obscure phenomena.

Dr. J. A. STUCKY—From the history of the case and the quantity of the discharge, I am almost forced to conclude that the discharge was from the cranial cavity. There would not be over an ounce or so from the ethmoidal cells, even if they were much enlarged.

Dr. G. V. WOOLEN—I have often been surprised at the amount of discharge in the ethmoidal cells and at the large quantity of polypi that can be taken from this region. The amount of operative tolerance in this locality is remarkable at times. It does not seem that the fluid was cerebro-spinal, or there would have been other cerebral symptoms besides pain, such as coma, paralysis, etc.

Dr. A. DE VILBISS—Although many have done considerable work in the region of the roof of the nose, we should not invade that region without some fear of doing harm. Only about four months ago I witnessed the death of a patient from an operation in that direction. In old cases where we have empyema we can operate more readily than in acute cases. That the cerebro-spinal fluid can leak out and escape through the nasal cavity I believe, though I have never made any postmortem demonstration of the avenues by which it comes. I had a patient who, every few months, by bending the head forward could discharge about half a teaspoonful of cerebro-spinal fluid through the nose. He had also symptoms of focal epilepsy. He was relieved by puncturing the dura and drawing off the cerebro spinal fluid.

Dr. SCHEPPEGRELL—This case could not be one of hydrops of the ethmoidal cells, as this would not account for the sudden and complete discharge of the fluid, which indicates the existence of a kind of buffer, which in this region could be furnished only by the intracranial pressure. As already stated, a cystic accumulation in the subarachnoid space would alone explain the character of the fluid examined and the various symptoms presented in this case.

THE TREATMENT OF EMPYEMA OF THE FRONTAL SINUS.

Discussion in the Section on Laryngology and Otology, at the Forty eighth Annual Meeting of the American Medical Association, held at Philadelphia, June 1-4, 1897.

OPENED BY J. H. BRYAN, M.D.
WASHINGTON, D. C.

In accepting your invitation to open the discussion on this most important and interesting subject, I feel that I can not do better than first to call your attention to a few of the anatomic peculiarities of the frontal sinuses, in order that the pathology and treatment of chronic suppurative inflammations of these cavities can be the better understood.

The size of the frontal sinuses varies greatly in different subjects, and frequently in the same subject the variation is very marked, one cavity occasionally being quite large while the other is many times smaller, or absent altogether.

After an examination of 120 skulls made by Herbert Tilley[1] he considers a sinus normal when it measures 28 mm. from the median line outward to about the junction of the inner and middle third of the supra-orbital ridge; and in vertical extent measured from the root of the nose from 20 to 22 mm. Lamb,[2] who has also investigated the size of these cavities, found the right one with a varying capacity from one and one-third to six c.c. while that of the left sinus was from one and one-fourth to four and two-thirds c.c. As showing the difference existing between the two sides he found in one instance the left sinus was to the right as seventy to ninety-five.

In health these cavities are separated by a very thin partition or septum which in the majority of instances is complete, although they occasionally communicate through a small opening. The septum is occasionally not straight, deviating to one side or the other thereby rendering one cavity smaller than the other.

Situated between the frontal and ethmoidal sinuses there is a series of cells formed by the junction of the ethmoid and frontal bones, but which form no part of either of these cavities. They, however, bear a very important relation to both sinuses, for when affected by an extension of a morbid process in either of the adjoining cavities they seriously complicate these conditions and render the prognosis much more uncertain. I believe in nearly all severe cases of empyema of either the frontal or ethmoidal cavities these cells are to a greater or less degree, affected.

Chronic empyema of the frontal sinuses while not an uncommon occurrence in some of the continental countries, as Russia and Germany, has not been so frequently observed in this country until within the past few years, and especially since the frequent visitations of epidemic influenza, which seems to have a special predilection for the accessory sinuses. While chronic suppuration of this cavity may and does frequently arise from other causes such as an extension of simple catarrhal inflammations from the nasal cavities, and from the retention of the secretions in the sinus by obstructive lesions within the nose, the most frequent cause in my experience has been the extension of the morbid process from the nose in the course of an attack of grippe.

While the prognosis of this affection is generally favorable the treatment will be found to be difficult and tedious according to the methods adopted for its relief.

Since the rapid advances made in the study of diseases of the nose there is a tendency on the part of some rhinologists to treat this affection through the nose, especially since Jurasz has pointed out the feasibility in a few cases of passing a probe through the infundibular orifice in the nose. There is no doubt that in a few instances this can be done, but in the majority of cases it will be found to be impossible to pass a probe into the frontal sinus through the fronto-nasal duct, for generally this duct is situated far back, and is occasionally so tortuous that no probe can be made to follow its course. When sounding the frontal sinus is possible treatment conducted through the nose without first making an external opening is only suitable for acute cases.

Max Schaeffer has proposed opening the sinus by making a forced opening through the nose. It is only necessary to mention this method to condemn it as very dangerous, for there is already one fatal case, by this method, on record. Any one who has paid any attention to the anatomic irregularities that exist in this region can not feel assured that he can enter the sinus by forcing an instrument through the middle meatus or middle turbinated body. Even should one be successful in entering the sinus by either of the above mentioned methods little could be

accomplished in relieving the inflammatiom, for in these chronic cases the pus is very thick, best described as stringy in character; the cavity is generally filled with granulation or polypoid tissue, and there is frequently some caries of the surrounding bony walls. When such conditions exist no amount of irrigation with antiseptic lotions will relieve the inflammation. I can therefore speak of these intranasal methods only to advise against their employment in chronic frontal sinusitis of long standing. I think most authorities of any extended experience will agree that one of the external methods will in the majority of cases be called for, and the earlier the operation is done the shorter will the usual subsequent treatment be.

There are several methods proposed for entering the frontal sinus. One, which I employed in a case successfully, but in which the subsequent treatment was very tedious, is where the incision is made along the lower border of the supra-orbital ridge, first pulling the integument forcibly up on the forehead so that the line of incision would fall just under the eye-brow. The incision beginning at the root of the nose and extending outward from an inch to an inch and a half is made down to the bone, the integument and periosteum elevated, and the sinus opened at the internal angle either by means of a drill, chisel or trephine. This opening does not admit of a thorough inspection of the interior of the cavity, and any caries of the septum or fronto-ethmoidal cells could easily escape detection. The disadvantages of this method are that the opening does not admit enlargement of the fronto-nasal duct as readily as that through the anterior wall, consequently the cavity has to be irrigated through a rubber or metallic drainage tube introduced into the sinus at this point, which results in the patient recovering with a decided depression over the opening into the sinus, and occasionally with a fistulous opening remaining.

Panas,[3] who has had a large experience in treating this affection, recommends that an incision be made along the lower border of the supra-orbital ridge and then makes another perpendicular to this upon the base of the nose, the triangular flap including integument and periosteum thus formed is detached from the bone, and an opening made into the sinus near the inner angle of the orbit large enough to admit of a thorough exploration of the cavity.

Another method, which offers many advantages over the above mentioned procedures, is that devised by Ogston [4] of Aberdeen, in 1884, and more recently and independently advocated by Luc.[5] In this operation the incision is made in the median line commencing at the root of the nose and extending from an inch and a half to two inches on the forehead. The skin and periosteum are elevated and a centimeter of bone removed from the anterior wall of the sinus by means of a crown trephine applied several lines from the median line and about two or three lines above the supra-orbital ridge. By this means an opening of sufficient size is made so as to admit of a thorough exploration of the sinus, and caries of the bony walls, the septum, or of the fronto-ethmoidal cells can be easily detected and removed. After the removal of any polypoid or necrotic tissue the cavity is thoroughly cleansed, and the fronto-nasal duct enlarged by passing a trocar from the sinus into the nose, using the little finger as a guide, after which a self-retaining drainage tube is introduced through this enlarged opening and allowed to remain as long as necessary. The membrane lining the cavity may be touched with a 20 per cent. solution of the chlorid of zinc and the wound closed by means of an interrupted or a sub-cutaneous suture, which should then be hermetically sealed with a solution of iodoform and collodion. The subsequent irrigations can be made through the drainage tube until all secretions have ceased to form.

The advantages of this method of treating chronic abscesses of the frontal sinus are manifest in that the cavity with all of its irregularities is rendered thoroughly accessible, and all diseased tissue can be removed before closing the wound. There is no depression left after the removal of the button of bone from the anterior wall of the sinus, and only a slight scar remains which in carefully managed cases amounts to little more than an exaggeration of the natural cleavage of the skin so frequently observed in this region.

The duration of treatment is very materially reduced by this method. In a case I reported at the recent meeting of the American Laryngological Association the duration of treatment was a little over six weeks from the date of the operation, and it was somewhat prolonged in this case owing to an unfortunate accident which resulted in suppuration taking place in the line of incision, either from an imperfectly sterilized cat-gut suture, or an infection of the under surface of the wound from the cavity below.

Botey[6] has modified this operation somewhat with the view of preventing the scar that may be left after the median operation. After shaving the inner two-thirds of both eyebrows, he makes an incision the length of the internal third of the supra-orbital ridge, which is prolonged to the root of the nose. After elevating the integument and periosteum he removes the external plate of the sinus near the root of the nose, and then carefully detaches fragments of the anterior ethmoid cells until a large communication is left between the frontal and nasal cavities; the sinus is cleared of all diseased tissue and a strip of iodoform gauze introduced through the opening into the nose, when the external wound is closed.

This operation would seem to present some advantages over that of the Ogston-Luc method, especially in not leaving much of scar, and also in having the fronto-nasal opening sufficiently large to do away with a drainage tube.

After the artificial opening has been made the subsequent treatment consists in keeping the cavity free from all secretions, which is done by frequent irrigations with antiseptic lotions. The use of strong antiseptics in this cavity as well as in the other accessory sinuses can not be too strongly condemned. The best results are obtained after the persistent use of such mild applications as hydrogen dioxid and a saturated boric acid solution.

Dr. MAX THORNER—Diseases of the frontal sinus, acute as well as chronic, are often of such a nature that diagnosis is easy, but in some cases it is very difficult. It is often extremely hard to find from which of the accessory cavities the discharge takes place. A patient who was brought to my service in the Cincinnati Hospital had previously all the accessory cavities of one side opened without finding the

1 Lancet, London, Sept., 26, 1896.
2 Reference Handbook Medical Science, Vol. vii. p. 659.
3 Archives of Ophthalmology, Vol. xx. p. 658.
4 Medical Chronicle, Dec. 1884.
5 Archiv. internat. de laryngol. Par. 1846, ix. 163-178.
6 Rev. hebdomadaire de laryngologie, d'otologie et de rhinologie, No. 3 Jan. 16, 1897.

cause of persistent headache. It had been rather the habit of late to operate on the accessory cavities in headache which can not be traced to any other cause. It is almost impossible to gain admission into the frontal sinus through the nose, although I will not deny that it can occasionally be done. Some time ago I tried, on the cadaver, to introduce probes through the nose into the frontal sinus, and was astonished to find in how many different directions my probe had been conducted. Some observers have repeatedly stated that it was very easy to introduce a probe or flexible canula, but I do not think so. Even if there is only one case on record where death has followed the attempt at opening the frontal sinus from the nose others have occurred. Whatever may be the opinion regarding acute, I think that all agree that in chronic cases we should do the external operation. Operative treatment through the nose in such cases is almost impossible, and always dangerous.

The method mentioned by Dr. Bryan is among those almost universally used. Of late I have changed my method slightly. I do not make the incision in a straight line along the eyebrow, but following the eyebrow about two-thirds its length, and then curve it slightly upward toward the median line. I have found that access to the cavity is better, while the scar is almost invisible. In chronic cases, where there is extensive caries it is almost impossible, in my experience, to get healing in four to six weeks. In the modern, or so-called radical operation upon the middle ear cavities, we have the advantage that we plaster the skin into the wound-cavity to cover the raw bone surfaces, but we can not do that in the frontal sinus, though I think it has been proposed. Healing takes almost twice as long where there is extensive caries, especially where the conditions for drainage are not favorable. I have found it most advantageous in such cases to drain for some time at least through the external opening although it takes longer. In all cases where I found extensive caries, I left a little hole for drainage, and the results were better than where I had closed the external wound by sutures at the time of the operation and depended upon drainage through the nose alone. This method does not preclude closing the external wound at once in cases where we find no caries at all, or only to a slight extent.

Dr. J. A. STUCKY—I have seen quite a number of these cases, and in every one there has been serious trouble in the middle meatus, and the middle turbinal has been enlarged. I have found that removal of the anterior end of the middle turbinal gave great relief. I believe the orifice of the infundibulum is closed by adhesions, and if we succeed in opening the process and subduing the inflammatory conditions, nature will often complete the case. By frequent cleansing of the nasal cavity and keeping the patient quiet, especially in acute cases, we can prevent more serious attacks. As to chronic cases, I am in favor of the external operation. I believe in making a large opening to see what you are doing and also to get free drainage. I prefer to make the opening with the trephine, at the root of the nose. I do not like the opening at the eyebrow, which I have tried but have had much trouble and swelling.

Dr. SCHEPPEGRELL—Where the external operation is necessary it should be done by the radical method which Dr. Bryan suggests. We should not however proceed to external operation too soon. The attempt at intranasal treatment should be made first. As to the difficulty of entering the frontal sinus through the nose, I have done it a great many times, and have been sure that the probe reached the cavity. If the case has not gone to the point of caries, we should try the intranasal treatment first.

Dr. DEVILBISS—I am in favor of the external opening. I would like to ask the last speaker to give us his plan for draining the frontal sinus through the nose where there is empyema.

Dr. SCHEPPEGRELL—I have used a weak solution of peroxid of hydrogen to clear the nostril. No two cases are alike, and we must study the topography of each individual case. I try until I finally succeed in finding the natural channel, and then the probe is passed upward into the passage, then syringe with a gentle and continuous pressure.

Dr. COBB—The difficulty of catheterizing these cases is almost unsurmountable. In experimenting upon anatomic preparations, if you take a probe and bend it to the extent necessary to reach the frontal sinus, you will find that the bend is too great to allow it to enter the nose. The evidence is lacking that the probe really does reach the sinus. The fact that pus follows it would prove only that the ethmoidal cells might be affected. Peroxid would cause bubbling in case it encountered any pus on its way to the frontal sinus. It is very difficult to tell whether you are actually in the sinus.

Dr. FREUDENTHAL—I always try to benefit those chronic cases by intranasal treatment, but I have never succeeded, and finally have to come back to the external operation. I have one case on record which I have been treating for three years. I do not believe that entrance into the frontal sinus is as difficult as some of the gentleman believe. In about 15 or 20 per cent. of the cases with a very fine probe, you can enter the sinus easily.

Dr. MYLES—I have operated on eleven cases externally, and dozens internally as I suppose all have. I originated the idea of taking out all of the bone between the central part of the nasal processes and the sinus, as near the floor as possible. I operated on several cases in that way, and kept them open for six weeks. These cases are all in fairly good shape with freedom from pain, though occasionally a little mucopus escapes. I abandoned this operation because I could not chisel away the floor of the sinus through this opening and it was difficult to enlarge the opening to the extent that I wished. So I adopted the method of Luc, I believe. I think his technique is by far the best of all. A few weeks ago I operated on two cases in which the cavities were full of pus and carious bone. I chiseled a large hole just above the orbital ridge, making a passage into the nose. In both cases I used soft rubber tubes and sewed up the external wound at once. I left the tubes in for about three weeks. The patients were relieved, and the one which was the more serious is now doing well. The other operated on after a general surgeon had done a double external operation, and I had to cut through a line of cicatricial tissue. The external wound was perpendicular, and healed in three days. The secret of success is in making a large opening into the nose. I am strongly in favor of removing the middle turbinal before operation and also the ethmoid bone which lies between the infundibulum and the upper part of the septum.

As to immediate closure of the external wound, the new membrane forms just as well in the closed dark

cavity as in the light. I have tried to ascertain how the bare bone closed over in these cavities. In one case I reopened, and found the granulations very exuberant and softened by the atmosphere which passed upward in respiration.

THE CHAIRMAN—We must draw a sharp line of distinction between acute and chronic cases. Our reports and statistics are vitiated by dragging in acute with chronic cases. The majority of acute cases recover spontaneously, and the operation receives the credit of the cure. Intranasal methods should be carried out tentatively, especially where there is polypoid degeneration of the middle turbinal or the presence of actual polypi. The nose should be cleared and the anterior end of the turbinal removed if necessary. The operation by the intranasal method often does not result in a perfect cure, though it often relieves the headache and may establish better drainage. Intranasal treatment should not be carried on too long; in this way we may weary and discourage our patients. After having done what is really essential by intranasal treatment we should proceed to the external operation. I consider Luc's a great advance over previous methods in the external treatment of this disease. It will enable us to promise a cure if there is no caries, and it leaves no deformity. This operation has been well described by Dr. Bryan, but there are several points that were not quite clear to me. First, as to whether the incision is made exactly in the median line or deviated a little to one side; second, in reference to the modification of Luc's operation, in which there is an incision along the orbital arch and then a vertical one connected with it, with a view to lessening the deformity.

Dr. BRYAN—I invariably relieve the intranasal conditions as far as possible before resorting to operation. The removal of the middle turbinated body is sometimes necessary when the ethmoidal cells are involved. These cases can not be cured unless every bit of caries and pus is removed. After the cavity has been thoroughly curetted and the diseased tissue removed, I know of no reason why the patient should have an open wound until the so-called healing of the internal cavity takes place; this occurs just as rapidly when the wound is closed. As to the incision, my last case had a decided furrow in the median line and I followed this. It seems to me that Botey's method is a great advance over the median operation, though I have never tried it. The incision is described as commencing at the inner third and under surface of one eyebrow and then carried across the root of the nose, the integument and periosteum elevated, and the opening made just above the inner angle. The great advantage is that the rubber drainage tube is dispensed with. The communication between the sinus and the nose is a large one.

Gerson's Elastic Suspensory Bandage.—A soft elastic cloth, fringed on one edge, is covered with "York's rubber zinc plaster" and applied in epididymitis as follows: The scrotum is freed from hair and moisture and the bandage is applied around the empty scrotum below the testes, with the fringe up to prevent cutting. The scrotal skin thus drawn tight exerts constant pressure on the swollen testes and reduces the swelling. When the bandage becomes loose, as the swelling subsides, it is removed and applied higher up until complete recovery. In case of varicocele the bandage is removed at night. Frank and Lassar endorsed from personal experience the usefulness of this bandage.

MENIERE'S DISEASE, WITH REPORT OF A CASE.

Presented in the Section on Laryngology and Otology at the Forty eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

BY JAMES M. BROWN, M.D.

Instructor in Otology in the University of Pennsylvania; Assistant Aural Surgeon to the Hospital of the University of Pennsylvania; Aural and Ophthalmic Surgeon to the Western Temporary Home; Aurist to the Presbyterian Orphanage.

AND JUDSON DALAND, M.D.

Instructor in Clinical Medicine and Lecturer on Physical Diagnosis in the University of Pennsylvania; Assistant Physician to the Hospital of the University of Pennsylvania; Professor of Clinical Medicine in the Philadelphia Polyclinic.

PHILADELPHIA, PA.

The employment of a term as indefinite as "Meniere's Disease" is now generally held to be, in giving title to the subject to which I ask your attention, may call for some explanation or apology, for quoting the words of Sir Wm. B. Dalby: "The term serves more frequently to mark ignorance of the lesion which occasions a series of symptoms, often analogous, but which are under the influence of very different causes." Such apology if called for must be the admitted absence of any designation more definite, and yet generally applicable to all cases of, or the various symptoms met with in, this disease, together with the great diversity of opinion which still obtains in the minds of the profession concerning it. Until we know the exact pathology and are able to separate other analogous diseases with which it may be confounded, it is wiser to hold to the name "Meniere's disease." Faintness, deafness and vertigo were the symptoms that especially engrossed Meniere's attention, and of these the latter seemed most momentous, and his investigations led him to believe that the lesions which produced it were restricted to the semicircular canals. That this is not the universally accepted opinion is proven by the widely divergent expressions of master minds engaged in the study of both its lesions and symptoms. Politzer and Lucae both report instances in which the semi-circular canals were absent or, by trauma, filled with blood, and yet the patients did not suffer from any disturbance of equilibrium. Gradenigo, Moos and Burnett believe the vertigo to be chiefly due to an extension to the labyrinth of a chronic catarrhal affection of the middle ear. Steiner of Cologne believes that the vertiginous symptoms result from lesions within the brain or its membranes, causing alterations in pressure. Baginsky, Randall, Dench and others regard Meniere's disease as a complex of symptoms, in which the cause can not be due to disease of the canals alone, but whether labyrinthine involvement, such as hemorrhage or serous effusion, is present in all cases is a question, as yet, not certainly answered. It may be caused by organic changes in the perceptive mechanism, or secondary to diseases of the conductive apparatus, or to blood conditions, or circulatory disturbances, to certain diatheses, or may be wholly reflex. Mettler says it is too complicated to be considered as a mere disarrangement of the function of the semicircular canals alone, and yet it may be considered that in true Meniere's disease these only are affected, and that aural vertigo may not be aural at all, except so far as having certain aural symptoms associated with the vertigo are concerned. Bezold has collected and reports forty-six cases of necrosis of the labyrinth, and notes that only twelve showed symptoms of vertigo.

Mackenzie says it is due to the effect of irritation of the terminations of the vestibular nerve. Finally, aural vertigo may co-exist with or occur apparently as the result of the most varied diseases, as for instance, hysteria, hystero-epilepsy, syphilis, vaso-motor disturbances, cerebral diseases, inflammatory conditions of the middle ear or growths upon the auditory nerve, gouty or rheumatic diatheses, pelvic and visceral inflammations, etc. And so I might multiply authors and recount opinions and cases, but enough has been given to show that we are dealing with an intricate and imperfectly understood disease, one whose manifestations seem entirely out of proportion to its lesions.

The following case is so typical that I believe its relation will be of special interest. The subject of it, Mrs. S., age 30, married, the mother of two children, the youngest born just one month prior to the commencement of the present illness. Her accouchement was normal and convalescence good. Family history excellent, with the exception of one brother who died at 33 of cerebral meningitis. She has always enjoyed good health, and is of a most bright and cheerful disposition, courageous and hopeful to the extent of light heartedness throughout her most distressing sickness. Manifesting a most intelligent interest in her own case, so apt in noting and describing her various symptoms or recounting her sensations. I requested her to write them out for me, and after hearing them, I think you will agree with me that a study from the standpoint of patient or laity, is not only an innovation but one of value and instruction:

"I went to bed on the night of January 6 feeling well but extremely tired, and the first premonition of approaching illness was on being awakened at 8 o'clock in the morning of the 7th, when I experienced the most violent noises in my head, like the pounding of iron. I had no dizziness or nausea during the forenoon, but on going down stairs received a slight physical shock as if the steps wavered, and came in contact with the feet too suddenly. This continued all the morning, and was accompanied by a feeling of great lassitude. I ate heartily at luncheon, had no pain in my head or elsewhere, although the noises continued without interruption, if anything, increasing in violence. A loud noise such as the water rushing in the toilet room, seemed to aggravate this condition, filling the head with noise. At about 1:30 P. M. I was seized with the acute attack of vertigo. I had just nursed my month-old baby when the room suddenly and with great violence seemed to turn directly upside-down, the floor approaching me and giving the sensation of an actual shock as if caused by an earthquake. I staggered to the door with my feet wide apart like an intoxicated person and called for assistance, then fell into a chair and life seemed to leave me for an instant. A glass of wine restored me temporarily and I reached the bed without assistance and lay down. Upon moving my feet on the bed I experienced a slight sensation of the bodily physical shock before produced on going down stairs in the morning. The physician arrived about 2 P. M. when the violent symptoms, especially vertigo, had somewhat subsided, but immediately after his leaving I was seized with a violent spell of vomiting, after which I arose from bed and went down stairs to be conveniently near some member of the family. About an hour later I was seized with a second attack of vomiting, this time accompanied by the most awful dizziness imaginable. The doctor likens this condition to seasickness, but I am sure that no seasickness could be half so terrible. The nausea, vertigo and vomiting continued during the afternoon and were intensified by the slightest movement of any part of my body, the room seeming to spin round and round with great velocity. I was utterly unable to rise to return to my room and was finally carried there in great distress from the disturbance and change of position. Doctor called again at 7 o'clock in the evening and ordered absolute quiet, and I retired and slept heavily until morning. Upon awakening, all the symptoms returned with increased force, the slightest movement of any portion of my body, excepting my hands, producing the most deathly nausea and vertigo, together with a feeling as if I were falling to the affected side (the left), while the room would seem to revolve rapidly in the same direction, and the floor or objects under or below me seemed to rise up violently against me. These symptoms as before were increased by any movement of my extremities, even the simple movement of the eyeballs being sufficient to produce it, and it was only by maintaining an immovable position on my left side with my eyes closed that I enjoyed the least immunity from these distressing feelings. They continued without abatement for a week or eight days, when gradual amelioration took place, though several days elapsed before I was enabled to actually change my position on the bed; this was done by keeping the upper part of my body thoroughly rigid and horizontal, the least raising of the head or trunk instantly producing the feeling of shock and dizziness, yet without such violent recurrence of nausea. The inhalation of strong ammonia salts during these efforts at change of posture seemed to partialy restrain the distress, especially the nausea. After the first week the vomiting ceased and in the next few days some abatement in the violence of the other symptoms, except movement, when the feeling of shock recurred as if the bed rose violently against me. This lasted during the entire three weeks I was in bed. In disappearing it seemed to leave the various parts of my body by degrees, beginning at the extremities and approaching my head. the last place to subside being the affected side between the shoulder and hip, where I still periodically notice it. On moving across it the bed seemed to rise like the ocean billows carrying me on their crest. As the vertigo grew milder the violence of this motion and the excursion of distant objects, seen through my windows, first grew less and less; nearer objects, as the confines of my room and its furniture, later, and finally my bed on which I rested. When convalesence had proceeded far enough and I could get up, I staggered considerably and pitched forward to the right or unaffected side. I was obliged to help myself by the bed and furniture, fearing to trust myself to others.

At the present time, six months since I was stricken, the noises continue with varying intensity, ranging from those heard on a quiet summer night, to those heard in a foundry. It is much less when lying on the affected side; and when lying on the other side, no matter what they may have been during the day or when up and about, they resemble the chiming of bells, and sometimes like the shifting of sand or rubbing of sand paper. External noises when near me sound abnormally loud, as for instance persons coughing or the tearing of paper, which are almost painful

and startling. I am unable to distinguish the ticking of a watch when held close to the affected ear."

I do not know that I can add materially to this excellent description by my patient of the subjective symptoms of the case and will therefore address myself briefly to those that are more especially objective.

On first seeing my patient, some hours after the inception of the attack, the symptom most complained of was the tinnitus, and my next visit, some five hours later, the triumverate, tinnitus, vertigo and nausea or vomiting; fullness and loud thumping noises were felt throughout the head, while sharper, higher pitched sounds and the vertigo were referred to the left ear. The patient, a robust, plethoric woman, seemed now to have some slight increase of color in her face, rather than the pallor usually attendant on the invasion of this disease. Pulse and temperature were about normal throughout her illness. The temperature never arose above 100 degrees F. and the pulse ranged between 75 and 90. Early and repeated examination disclosed no change in the drum membrane. At my first visit hearing power in the left was almost lost. So excessive was the vertigo and so easily excited or intensified that no little difficulty was experienced in making thorough examination. A heavy step or a slight jar of the bed, or the suggestion of a change in position for the administration of medicine or examination, were met with the most vigorous protests from the patient, who in other sicknesses had proven herself most tractable. At my first visits after some efforts for the relief of the nausea and vomiting, with but little effect, calomel in divided doses was given until free purgation, combined with acetanilid and citrate of caffein, together with 1 gram doses of sodium bromid every three hours. The horrible tinnitus prevented her from sleeping, but this was fairly well overcome, by 0.65 gram of trional at bed time. On the evening of the second day, 0.016 gram doses of muriate of pilocarpin were administered hypodermatically every half hour until four doses were given, producing free though not excessive diaphoresis for a few hours, but making no impression on the disease. The next day 0.32 gram doses of potassium iodid, three times daily were prescribed, which in a few days were increased to 0.65 gram, and with the sodium bromid was the predominant treatment for several weeks. During the second week there were some manifestations of rheumatism in the extremities, which promptly disappeared on the administration of salicylate of colchicum. Absolute rest and perfect quiet were insisted on, and in the third week recovery was taking place, nausea disappearing first, vertigo and tinnitus subsiding later in the order named; both these latter, however, are still periodically present, a quick turn of the head, a violent motion of the body or a loud noise being sufficient to reproduce them.

Early in the attack Politzer inflation and the use of the Eustachian catheter mitigated the tinnitus but later, as Randall has pointed out in cases of internal ear disease secondary to disease of the conducting apparatus, intensified it. At the present time, six months after the attack, hearing power is improved, though for both high and low pitched tones it is still very greatly impaired, while loud tones of any pitch, especially if close, are painful. During the past month the bromid had been discontinued, and the iodid supplanted by Donovan's solution in ten drop doses thrice daily.

From observation in this and a number of other less typical cases, I conclude that it is a disease of more frequent occurrence than supposed by the profession at large, many of the milder forms and oft recurring cases being ascribed to cerebral troubles or gastric or visceral disturbances; the liver, long the scapegoat for human ills, is compelled to add this to its burden of offenses; especially is this so if occurring coincident with some indiscretion or irregularity of diet. The aurist is usually quick to recognize this disease even in its milder or atypical forms, but from the frequency with which I have found the ear ignored in attacks of vertigo, no reference by examination or otherwise being made to it, I think it is too often unrecognized until repeated attacks have worked irreparable injury. In the milder forms, rest in bed, restricted diet, attention to the excretory functions and the administration of bromid salts usually suffice. In gouty and rheumatic cases I have found salicylates or lithium salts, with potash and colchicum, most effectual. In the more severe cases, especially if at the outset they seem apoplectiform in character with full tense pulse, I would not hesitate to bleed freely and follow by arterial sedatives and absorbents. Quinin, as advised by Charcot, I have found useful chiefly in cases with sluggish secretions and malarial complications, when the addition of arsenic or dioscorea villosa increases its beneficial effect. All that has been said concerning the milder cases, or concurrent complications, will apply to prevention of recurrence of the attacks, for I think it is fairly well established that one paroxysm predisposes to others subsequently.

SOCIETY PROCEEDINGS.

The Quarantine Convention of the South Atlantic and Gulf States.

(*Concluded from page 433.*)

FEBRUARY 10—MORNING SESSION.

The first paper read was

QUARANTINE AS IT AFFECTS PERSONAL RIGHTS,

by ex-Lieut. Gov. SHANDS of Mississippi, now professor at the law department of the State University. He discussed the question as to the extent laws can go in their effect upon the constitutional rights of the citizen, quoted from the Constitution as to the abridgement of the rights of the citizen, and said that any enactment interfering with the rights would be set aside by the courts. He also referred to a number of legal decisions touching upon the subject of his paper, and cited a Michigan case, emphasizing the position he took that laws bearing on the rights of citizens would not hold. He cited opinions, however, that quarantine laws were constitutional when the necessity of the enforcement of the provision abridging personal rights was apparent and necessary to public health.

Hon. C. H. AUSTILL of Spring Hill, told his experience with the yellow fever refugees last year, and how few personal rights individuals had during the quarantine. Mr. Austill thought, however, that if legal and reasonable quarantine laws were enacted it was the duty of the people to obey them. He deprecated very much the character of the quarantine laws established and operated last year.

A. L. MCLEOD of Selma, said that the fever was a great evil and the quarantine also an evil, a lesser evil than the fever, perhaps a necessary evil; but a quarantine regulation should be a reasonable one. As it was last fall, in many instances it was a species of absolutism and despotism. He in the quarantine campaign last fall cited instances where the regulations had been extremely autocratic and despotic. He thought that the convention should recommend the passage of laws that would deprive a State, city or town of the right to quarantine other than infected places.

Hon. F. G. BROMBERG of Alabama, thought the remedy for

the mischievous features of quarantine was the proper education of the people. He said that in the end the courts would have to pass upon these rules and regulations. He thought that there should be a bureau of health at Washington the same as a Department of Agriculture. True ideas should be promulgated all through the country, and the people would be better posted and know better how to act.

The next subject of discussion was

NATION, STATE AND LOCAL QUARANTINE; HOW BEST TO ADJUST THEIR RELATIONS.

A paper was read on this subject by Dr. W. H. SANDERS, State health officer of Alabama. He took the position that local and municipal quarantine laws must be made subordinate to those of the sovereign State. The State must be the judge of the reasonableness of the quarantine laws of local and municipal government, wherever they conflict with those of the State. In her own borders the State should be supreme. Then assign to the National Government the dutes of its own sphere. Let there be established a national bureau of public health. Let the members of it be from the different States, so the body could be in touch with all the different States. Let this body create rules and regulations in times of pestilence, and all the States would feel it incumbent upon them to support its laws, as all the States would have a voice in these rules. Dr. Sanders then presented a map of Alabama to illustrate the system he advocated. His plan was to have a health officer in every county, thoroughly familiar with the topography of his county, theoretically if not practically familiar with all infectious diseases, familiar with all the roads and avenues of traffic, and ready to act a moment's notice. The same to be with reference to the State Board of Health officer, except that he only familiarize himself with all the towns and cities near the adjoining States. In other words, to have a zone around the State guarded by the State health officer, assisted by his co-workers, so that the people within this zone could pursue their vocations undisturbed by the inconvenience of local and municipal quarantine regulations. Dr. Sanders, with the aid of the map, elaborated his plans in detail. He outlined his plans especially in opposition to a National quarantine system with one man from Washington in times of pestilence directing from that distance all the quarantine operations of the South. The necessary appointment of hundreds of thousands of quarantine officers at a short notice, officers, too, over whom the people of the South would have no voice in selecting. He predicted that such a course would result in trouble and a chaotic condition of affairs.

Hon. F. C. ZACHARIE of New Orleans divided the quarantine ideas into four classes. First, the people who believe in the absolute States rights, the second in the Federal sovereignty with reference to quarantine, a third class who believe in local and municipal quarantine, and a fourth class, composed generally of merchants, who would put the quarantine regulations upon a business basis, and would waive constitutional rights and home rule and depend upon the highest authorities to enforce quarantine regulations. Mr. Zacharie reviewed at length the great trade of the Mississippi Valley, how it was acquired and what it meant to the South. He intimated that Federal control of quarantine would be putting the South at the mercy of its mercantile enemies, and how easy it would be for the government to send down an expert to diagnose a case of fever as yellow fever and then close up several ports of the South for six months to the vast commercial injury of its cities and people and to the delight of the commercial enemies of the South. He referred to the malicious reports that had been circulated in the last two or three years against the South. The report, for instance, that grain which came to New Orleans and Mobile was damaged or ruined by reason of the dampness, and which report was found to be absolutely untrue. He believed that the Federal control of the quarantine would be disastrous to the southern business. He believed, however, that the Federal Government should define a reasonable quarantine and see that all vessels coming from infected ports were thoroughly disinfected and fumigated. Mr. Zacharie advocated forming a central society composed of delegates from all counties of the State to meet together and discuss hygienic and sanitary matters and give health information throughout the State, thus educating the people along that line.

Mr. FARRAR then offered the following resolution:

Resolved, That it is the sense of this convention

1. That it is the imperative duty of the Congress of the United States, under the power to regulate commerce with foreign nations and among the States to establish immediately a general system of maritime quarantine, and in pursuance thereof to locate on the Gulf and Atlantic coasts, at safe and convenient points, as many quarantine stations as the exigencies of commerce may require, to which stations all vessels coming from infected or suspicious ports and bound to any port in the United States should, before presenting themselves for entry at such ports, be required to repair to and perform quarantine, according to uniform regulations, putting all the ports of the United States on an equality, reserving to such port, however, such reasonable right of detention, inspection and fumigation as the local *bona fide* health laws of such ports, not amounting to regulations of commerce, shall require.

2. That it is the imperative duty of the Gulf and South Atlantic States—Texas, Louisiana, Mississippi, Alabama, Georgia, Florida, Tennessee and South Carolina—under paragraph 3, of section 10, of article 1 of the Constitution of the United States, to obtain the consent of the Congress, and of the Congress to give such consent, to an agreement or compact between themselves for the establishment of a uniform system throughout these States of local quarantines and health laws, based on scientific principles and as little restrictive of traffic, transportation and intercourse as the health and welfare of the people will permit.

3. That in order to enable the Congress to have complete control over the localities selected for its quarantine stations, the States ought to, under paragraph 17 of section 8 of article 1 of the Constitution, to cede their jurisdiction to the Congress over all such localities.

4. That the line of demarcation between these State and Federal quarantine laws ought to be clearly drawn, so as to prevent all conflicts and jealousies between the officials charged with the execution of the same.

5. That all of these laws ought to be executed in a mutual spirit of conciliation and respect, so that by their combination and co-operation the safety of the people, which is the highest law, may be secured.

They were referred to the committee on resolutions.

Dr. J. B. ELLIOTT discussed the paper read by Dr. Sanders, and agreed with him in many things, but did not think Dr. Sanders valued sufficiently the most important thing in the convention, which was, in his opinion, "Who shall make the laws?" At present the quarantine laws are contradictory and unsatisfactory. He thought the convention ought not to adjourn until it had passed an explicit resolution with reference to those who should make the laws. A solid, durable system of quarantine laws, he thought, should be framed by a representative body, composed of delegates from each State, to whom should be delegated the power of making those laws. Under the present quarantine system the laws are arbitrary and despotic, and are naturally resisted by the people. Congress is not the proper body to make these laws. A presidential appointee can not make satisfactory laws. Dr. Elliott thought a legislative body ought to be appointed, composed of representatives of the different boards of health of the different States, to meet as often as necessary until a perfected system of sanitary and quarantine laws could be secured. He thought Congress should be appealed to on this question at once.

Dr. E. H. SHALL of Birmingham thought the great question was how best to keep yellow fever out of the country. This, he claimed, was the first principle, the first matter to be considered. He thought that regulations, tyrannic if necessary, should be adopted by Congress to prevent the fever from coming into this country. He thought that the Federal, State and municipal governments should work in co-operation to this end.

Dr. CUNNINGHAM of Alabama spoke of the importance of the convention and of the efficiency of the medical profession had they the means and power to handle yellow fever when in their midst. He maintained among other things that if Cuba were bought or taken by force it would greatly minimize the danger of infection from that island. He deplored the fact that Southern boards of health, the peers of any in the United States, had no money to fight yellow fever, and he believed that these delegates should demand the necessary money from Congress to carry on that work. He paid a high compliment to the Marine-Hospital Service, and thought the whole matter should be turned over to them, with the necessary money from Uncle Sam's treasury to do the work.

Dr. CARTER, in response to references that had been made to the Marine-Hospital Service, gave a short account of its workings.

Mr. RUSSELL thought that Federal and State quarantine systems could be drafted so that they could be in operation in the same State, even in the same town, just as they do now with the Federal and State courts and laws, without conflicting.

HARRY PILLANS of Mobile said he had been impressed with the warning given by Colonel Zacharie of the Federal supervision of maritime quarantine. He thought, too, that it

might operate to the commercial disadvantage of the South. He said that Dr. Carter had answered in response to a question that even now there was a difference in the detention of vessels at ports north and south of Baltimore in favor of the North.

Mr. CLARKE of Mobile spoke of the matter of a board appointed by Congress to make quarantine laws. He said that Congress had not a particle of power to delegate to any other body the right to make laws. They might give that board a wide range, but could not delegate to it the power to make laws. As to Congress making an unjust discrimination against the South in the matter of the Federal supervision of maritime quarantine, Mr. Clarke did not believe it. He said if Congress had desired to discriminate against the ports of the South it would have done so by simply withholding appropriations, when in fact in the last ten years it had spent millions and millions of dollars on the ports of Galveston, New Orleans, Mobile and other Southern ports. He did not believe there was much diversity of opinion in the convention as to a national quarantine service to protect the Southern coast.

Professor SHANDS said in reply to Mr. Clarke that he thought that Congress could empower Dr. Elliott's proposed board of health office to make quarantine regulations as well as it now empowers the Secretary of the Treasury to make the regulations.

Col. ZACHARIE said Mr. Clarke's reference to appropriations for the South had been most unfortunate, and went on to tell how the East had always been given the preference in the matter of appropriations; how five times as much money had been spent giving New York three waterways as had been spent on the whole Mississippi River, draining twenty-one States. As to the present appropriation contemplated for the Passes, it was seen that the very men in Congress who sneered at the proposed appropriation were the ones who were from the East, interested in the appropriations for the East. He was sorry to say it as an American citizen, but the money powers of the East controlled the Government in the matter of appropriations for the East. He also alluded to the Union Pacific sale by the Government, and how the public press had, in that instance, prevented fraud by the Government.

Mr. CLARKE, in reply, said that if Col. Zacharie would examine the record he would see that there had been more money spent by the Government on the Mississippi River in the last ten years than on the New York harbor and waterways leading into it in the whole history of the Government.

Mr. MCLEOD of Selma offered a resolution to the effect that every State should pass laws with reference to quarantine and call upon the authorities of the different counties and towns to enforce them. The object of this was to prevent the shotgun quarantine.

Dr. MOODY of Mobile classed Dr. Sanders' system as a keynote of the situation.

Dr. KOHNKE replied to what Mr. Pillans had said about discrimination practiced against the South. He said there was a difference in the time of detention of vessels, but it was agreed to at a conference of medical men at which the South was represented. Had it been the same time for detention as in the South it would have been really a discrimination against the North, as yellow fever is much more easily introduced in the Southern than in the Northern ports.

Dr. ROBBINS of Vicksburg made a short talk in favor of national quarantine, and said he hoped the convention would not be turned from that by the appeals to prejudice and fears by the legal gentlemen.

AFTERNOON SESSION.

The Committee on Resolutions made a partial report against the bill in Congress now pending against vivisection. The committee reported as against the bill, that is, in favor of vivisection. It was discussed by Mr. Bromberg and Mr. Clarke of Mobile, Dr. Hamilton of Chicago and others. Mr. Bromberg opposed the passage of the resolution on the ground that it would be an officious interference with Congress; that if the bill in Congress was not passed, every "Tom, Dick and Harry" in the country with an "M.D." to his name would be engaged in vivisection. Dr. Hamilton of Chicago explained that the resolution was in the interest of science and ought to pass.

Mr. CLARKE thought the convention had its hands full in trying to advise the Senate committee on the quarantine question without going out of its way to offer advice on the vivisection bill. He thought the convention should devote itself to quarantine.

Dr. HORLBECK thought the matter perfectly germane to the quarantine question, as it was on the matter of the investigation of the yellow fever bacillus.

A long, uninteresting and general discussion followed, the resolution being finally adopted.

The national quarantine discussion was then renewed. Dr. ROBBINS and Mr. FALKNER again made speeches in its interest.

Hon. LESLIE SHEEDON of Mobile said that the United States has the right to regulate maritime quarantine and the communication between States, and he thought there was a field for the operation of both the United States and the State Governments in which to work. He advocated Dr. Sanders' plan to be recommended favorably to Congress.

The report of the Committee on Suffrage was then taken up. It gave to the South Atlantic States and Southern States five votes each, and to the other States two votes each, voting to be on the unit rule. There was a long debate on the question as to whether the unit rule should prevail or not. When the vote came the unit rule was rejected by a vote of 56 to 34.

EVENING SESSION.

The first paper read was

A NATIONAL BUREAU OF PUBLIC HEALTH,

by Dr. U. O. B. WINGATE of Milwaukee. The Doctor presented a concise and clear argument for a national bureau of public health, which he advocated strongly as a means to help the South in controlling the yellow fever. He said the Marine Hospital Service had its hands full with its own work, and could not give the proper time nor consideration to this matter. Dr. Wingate thought that in addition to a national system of sanitation and quarantine there should be the same systems in the South in towns and cities to work in harmony and co-operation with the national organization.

Dr. DRAKE also in a paper on "National Quarantine," deprecated some of the statements that had been made by able constitutional lawyers against the Federal control of quarantine as well as some of the statements against the Federal Government itself. He began by a wholesale roast of the quarantine regulations last year, drew a picture of the general conditions, told of the failure of the local authorities in many instances to keep out the fever. He told of the stoppage of mails, burning of bridges and other lawless acts, and then in a very strong argument, advocated national quarantine hereafter to have control.

Dr. HORLBECK'S paper was mainly a denunciation of the Caffery quarantine bill, as pernicious and likely to do a great deal of damage if passed. He intimated that it was made in the interest of commerce instead of public health. He said also that it gave undue rights and privileges to the National Government. He closed with the statement that national quarantine should be co-operative, not autocratic.

Dr. ELLIOTT presented an outline of a quarantine plan to be submitted to Congress. It was on the line of the quarantine council which he had advocated during the day. He presented it as a resolution and it was sent to the committee on resolutions without discussion.

Mr. FARRAR (by request) offered the following resolution, which was loudly cheered and sent to the committee on resolutions:

"*Resolved*, That the quarantine convention of the South Atlantic and Gulf States invite the attention of the Congress of the United States to Senate bill No. 2680, introduced by Hon. Mr. Caffery of Louisiana, as not conducive to the sanitary interests of the country. They do not regard the bill mentioned as necessary or wise. The powers proposed to be confided to the Secretary of the Treasury are extreme and dangerous. We, therefore, respectfully recommend that said bill do not pass."

New Jersey State Sanitary Association.

(*Continued from page 436.*)

GEORGE F. LORING, Architect, of Boston, Mass., read a paper on

SCHOOL ARCHITECTURE.

He said: At the request of your president I propose to give you the result of my experience in school architecture. The relation between architecture and hygiene is close and vital. Building, the parent of architecture, owes its creation to the desire of men for more hygienic shelter than was furnished by forests or caves. After the erection of his own hut his belief in the humanity of the gods led him to provide the same comfort for them while his reverence caused him to change from mud to wood and to clay and to stone. By the erection of temples the esthetic element was introduced and developed. Architecture is thought of only as proportions and detail.

Why human energy should take this direction instead of developing the physical part of man may be found in the superstitious regard for the body itself. All the functions were thought to be controlled by superhuman forces; the mind being controlled by physical and religious abstraction tending to turn

the same away from the body, could but produce its own embodiment in architecture. The greatest achievements of architecture have always been identified with the most mental and spiritual activity. The greatest triumphs have been in its application to the arts and industries. If our architecture is true it will be influenced by our activities and partake of the influence of the time.

Our modern steel buildings with the improved mechanical and scientific apparatus, to a great extent typify the national characteristics and the life of the times. A true architect is born, not made, and he will not cast aside these facts or it will be looked upon as absurd.

Hygiene has been the last of all branches to develop, due to superstition and lack of knowledge. The microscope and the study of specialists has brought to our minds facts that have been concealed and laid for us a foundation on which to build; the application of these principles as applied to building of schoolhouses is the subject here treated. In this northern climate and congested population the average individual spends at least 90 per cent. of his entire life in doors. The sanitary conditions of our buildings therefore must exercise a powerful influence on the general health. The best means for a study of these problems is afforded by the public schools.

The large number of people of practically the same age, for the same length of time, under the same conditions placed in a given area, make it possible to deduce much more reliable data than can be done in any other way. Then also, children as a rule are free from chronic diseases or other diseases found in adults. Some one has said that a child may be regarded as a very sensitive hygienic instrument responding quickly to change and environment. Following this line of thought I have made a study of school construction from the standpoint of hygiene as well as architecture.

Sixteen years ago school buildings were erected with the idea that all that was required was the housing of so many pupils, protection from the weather and so much floor space, all at the least possible cost. At about the time mentioned I began an investigation of this subject, being assisted by a bright man who was principal of a school. Much has been written on this topic but my remarks are based on actual experience in this line.

Given a committee of fairly intelligent men, the first business instead of the last, which is the usual method, should be the selection of the architect. This should be done before any site for the proposed structure is purchased. The location at a suitable point within the school district, for convenience and accessibility, is acknowledged. The exposure of the school building is of the utmost importance and preferably the lot should face either to the north or the south; the class rooms can then be located on the southerly side of the structure without too long corridors.

We are advocates of the sun buildings for class rooms; we do not agree with those that advocate northwest or northerly exposure, when we consider the number of days in the year when the sun is obscured, that the sun is nearly vertical over us at its highest point in the summer time, that for spring, fall and winter days the sun is necessary for health; that east and west exposures in the morning and afternoon are as bad, in the opinion of those with whom we differ, as the southerly, and that the amount of fuel necessary for warming fresh air for northerly rooms is more by at least four tons per room than for southerly ones. We all know the agreeable sensation of direct sunlight. Sunlight is the only disinfectant which sustains man while it kills the microbe, and you can not but agree from the standpoint of health and economy that our conclusion is correct. We believe that the body is of as much importance as the eye, with the windows properly screened against intense sunlight by use of curtains to each window in two parts, with the rolls at the meeting rail, the top running up and the bottom one down, the light can be controlled.

All windows in class rooms should be square-headed without transom tops, which can not be properly curtained, and without the bar over the transoms, as they throw strong shadows over the desks. The light from the upper part of the window is most valuable and should not be made circular or in the gothic style. Double windows or four runs of sash should be built in on the cold sides of class rooms. They have the advantage of preventing the frosting of the glass surfaces and chilled air will not flow downward on the bodies of pupils that happen to be seated in the outer aisles. With double windows the wind pressure on the walls of the exterior does not affect the movement of the air in the heating and ventilating ducts. The interior lighting of corridors and location of stairways can be disposed to best advantage with the style of the building mentioned. The space surrounding a building and within the boundary of the property lines should be at least twenty feet.

A lot where the grade of the land falls, or so graded as to fall to the rear is much the better for the basement, and for access to the same.

Except for high schools, no building should have more than two stories of class rooms. By spreading the building over the ground, instead of vertically, we gain in breadth architectural effect, lessen the danger to health of young persons by loss of energy climbing stairways, and lessen the danger from panics; the additional cost of a building two stories high as to one of the same capacity three stories high is so small that it is not worth considering.

In fixing the heights of stories we are governed some by the amount to be expended; the proper height of basement should be nine feet six inches to ten feet, of first story thirteen feet and second story twelve feet. The light in rooms on the second story is always superior to that on the first and we therefore increase the height of the story and of the glass surface of the first story to equalize the same; in any event the window heads should be finished to the top so no shadows can be thrown on the ceilings. The sill of windows should be three feet four inches from the floor. The proportion of light to floor of class rooms should never be less than one square foot of glass surface to six square feet of floor surface, and from experience we can say that this holds good for rooms thirty-eight feet wide, lighted from one side only. Within the limits of a city where adjoining buildings are about twenty feet from exterior walls we should increase our glass in proportion of 1 to 5.

Every room should receive the direct rays of the sun for some part of the day. The special arrangement of curtains before mentioned we consider better than dusty and rattling shutters. The direct rays can be wholly or in part excluded if desired, in direct sunlight the rooms up to the limit mentioned are sufficiently bright to allow the reading of extremely fine print without exertion; at other times the shades are not required.

The worst light is from the front. The best light is from the left side or left side and back. As the teacher suffers from the light as well as the pupil, and is placed necessarily in the opposite position, we believe that the desk should be placed on the floor, in such position as may suit the individual taste; supplemented by swivel chair is convenient and comfortable. The ceiling plays an important part in the distribution of light and should be white. We have used stamped metal ceilings painted white, but they are objectionable on account of the many shadows they throw; the paint soon becomes dull and is not the equal of a perfect plaster ceiling for reflecting light; the walls are better for the eye if tinted. Nothing can be better for blackboards than natural slate, but the joints should be cemented together after being placed; the chalk receivers should be placed at a height of two feet two inches from the floor for small children, and not over three feet four inches for high school pupils. Blackboards should not be placed between windows, and from thirty feet to forty feet in length is sufficient for any class room. Dustless crayons should be used; if common ones are used the board should be wiped off with a damp cloth, and not with a dry brush. Slots in the top molding of the boards should be left for cards. Picture moldings should be placed everywhere.

The number of pupils to a room can only be decided by the committee in charge.

The sizes of rooms for good seating depends on the size of the desks and ages of the pupils. The blackboard aisle should be three feet eight inches, the exterior aisles two feet four inches wide, inside aisles never less than twenty-one inches. An average desk twenty four inches wide, fifteen and a half inches deep, with chairs thirty one inches from back to back, seating grammar school pupils up to the age of 14, allowing space for teacher, will make a room twenty-six feet six inches by thirty-four feet three inches and allow fifty-four seats when fronted the narrow way, or fifty-two seats when fronted the wide way of the room. We find by careful adjustment of sizes of seats and ages of pupils that it is not necessary to allow twenty square feet of floor surface per pupil. As most authorities state they do not make any allowance for the age and place small and large on the same footing, we estimate fifteen square feet for the primary, seventeen square feet for grammar and twenty square feet for high schools. This makes quite a difference in the area and cost of a building. The adjustable desk with adjustable seat having a back of one curve seems to us the best and most comfortable for pupils. In a room longer than thirty-six feet it is difficult for a teacher to speak in an ordinary tone of voice so as to be clearly heard by the pupils in the rear row of seats.

Corridors should be without obstruction and never less than eight feet; ten is better. Stairways should be six feet wide

and each flight broken with a landing. These stairs should be as near the exits as possible and also equally placed at each end of the building. No portion of entrances, halls, corridors or stairs should be so planned that one teacher in charge of a floor can not command a view of the same for maintaining discipline.

Stairs, if of wood, should have stringers or supports of heavy hard pine, or of iron. If of iron, flat pieces of sheet lead should be sunk in each tread or sinkage filled with asphalt. The rise should never be more than seven and a half inches for each step with eleven inch treads.

From each class room there should be two doors connecting with the corridor; these doors should be hung to swing both ways; they should be fitted with new spring check, so whichever way they swing they stop on the return, at the center; glass panels in these doors are necessary.

If proper stairways are put in, there is no necessity for fire escapes on the exterior, any more than it is necessary to put up unsightly ventilators on the roof if proper system of ventilation is installed. If the building is laid out as described there can be no dark places. The details of lunch rooms, laboratories, specimen rooms, principal's office, teachers' rooms, libraries, superintendent's office, supply rooms, are matters for consultation. The female teachers' room should have toilet conveniences so that the girl pupils could use it for a sick-room; lockers for the teachers should also be placed in that room.

Laboratory walls should be of brick if the building is of brick, and finished in enameled brick or enameled paint; floors of the same should be of granolithic or asphalt. Floors of basement should be of granolithic; concrete is cheaper and also poorer in wearing qualities, as it disintegrates; much of the dirt on the floors of corridors and class rooms is from this source. The boiler room floor should be paved with brick and grouted in cement; the ceilings of basement where wooden framing is used in floor above should be wire lathed and plastered and is a protection against noise, dirt, drafts and fires. The best flooring for upper floors is selected dry maple or cone-grained hard pine, and the boards should be narrow, matched, and blind nailed. If nailed in the ordinary manner every nail hole and crack is a place for deposit of human and animal wastes. The floors may be covered with two coats of elastic varnish that will not mar or scratch; they should not be oiled as that turns hard pine black.

If wooden construction is used for floorings then the same should be protected against fire by use of salamander fireproof sheets put down between the under and upper floors with lapped joints and coated over with a solution of that make. If the partitions are of wood, then they should be fire stopped at each floor and ceiling. If brick walls are furred off for plaster and finish, the same should be fire stopped at top and bottom in each story. All staircases should be carried by brick walls and they should not be laid out in plan so as to be over the boiler room.

Concrete-expanded metal lath and steel construction for fireproof floors would cost about seven cents per square foot more than wooden construction and we hope the time will soon come when committees will be willing to pay the additional cost.

In the disposition of the basement plan the space instead of being filled with pipes, ducts, boilers, piers, etc., can be so planned as to have good rooms available for wardrobes, if desired, for toilets, manual training rooms, janitor's room, bicycle rooms, lunch rooms, etc., whereas, in many schools this portion of the building is absolutely worthless and can not be utilized, show lack of knowledge and experience on the part of the designer.

Assembly halls are usually placed in the roof space for economic reasons. The first or second floor would be safer and more convenient; if located on the second floor by providing wide openings to each adjoining class room at the platform end of the hall. The accommodations can be increased by using these class rooms, and allow of a smaller hall if necessary. From motives of economy the hall may be used as class rooms and arranged with folding partitions; the platform may be in sections, removable and a storage place provided. Quite often we arrange two class rooms so that they may be thrown together, making one large room; if on first floor they may be used for town purposes, etc. Regarding acoustic qualities of class rooms with height of from twelve to thirteen feet, the proportions of 26 x 34 or 26 x 32 are always good.

Authorities differ regarding the width of class rooms and quality of light; one says width of room equals two and one-half times top of windows from top of desks; this would give about twenty-six feet width for thirteen foot story and twenty-four feet width for twelve foot story. When there are no limitations the nearer this rule is adhered to the better the result.

The wainscot work of class rooms and elsewhere would be more vermin and dust proof if made of hard plaster painted four coats of lead and oil with soft gray color and finished without a gloss. Standpipes and fire hose should be furnished where the appropriation admits of it. The interior finish should always be of ash or oak, and the additional cost for ash over whitewood (which is so often used) would never be known if incorporated in the specifications. The style of the same should be simple and free from too many projections to catch the dust.

Wardrobes.—As contagion is most likely to occur from garments, which being porous, absorb and transport gases, microbes, etc., it is necessary to have two wardrobes properly arranged on each floor, one for each sex if appropriation permits. The latest improved wardrobes set up in separate rooms or in corridors either in the basement or on each story is made with separate stalls of three to four inch by three to eight inch channel irons covered with three to four inch half oval with open spaces up ten inches from the floor and the top five foot four inches from the floor, between each stall and forming the back between two sets of stalls on these frames filled with one and one-half inch diamond mesh No. 9 wire. At the bottom is a shelf for rubbers, two rings and cups for umbrellas with hangings on each side, none on the back. They are about one foot three inches deep and one foot six inches wide. The cost of this style of wardrobe put up is about $1 per hanging, as there are two to each stall, $2 per stall. In estimating the number of stalls that can be placed in a room and have plenty of freedom for aisles, etc., allow two square feet per hanging. We believe the best place for wardrobes is in each corridor, provided it is wide enough. There will be no traveling up and down to the basement. If separated for sexes there is less crossing of files or pupils, being more direct, cleaner and just as well ventilated.

Wardrobes seem to be the most difficult part of school sanitation, there being many advantages in the open method by placing them in wide corridors or in the basement, unless an appropriation large enough for special rooms with a thorough circulation of fresh air, is provided. The advantage of having them in the corridor is that the teacher in command of that floor maintains the discipline.

Sewerage.—Where there are no sewers we unhesitatingly use the cremating closets, but these should never be supplied with foul air drawn from class rooms above; there should not be a connection of any kind between closet room and rooms above. In no case should the wastes of sinks and bowls or private toilets be discharged into these vaults; the wastes should enter a cesspool, preferably a double cesspool a tight one for solids and a leeching one for liquids. The best urinal is of slate with the dry air system, using no water. There should be a connecting waste from the trough and a connection made to the cesspool drain. We are sure from the experience we have had, that these, when properly erected, will last forever without repair and that they are free from odor; if an earthen urinal is desired, the best is the Stevens' patent, ventilated from the bottom of the bowl and automatically flushed; slate is the best material for slabs.

Water-closets for pupils' use, where there is water carriage, should be with automatic seats. The Hellyer Oxford Closet, a moderate priced vitreous earthernware product of this country, has lately been fitted with a perfect seat, absolutely sure in action, and not likely to wear in any part; these closets set with a space of from twenty to twenty-four inches between the back of the slab and wall will allow access to all the pipes, points, and tanks; nothing but the closet is exposed to view; the closets are set separately with separate tanks, enclosed in ash, slate or marble partitions six feet six inches high; doors should stand open in the closet with spring attachment and with spaces at top and bottom; each closet should have seat ventilation, and the toilet-room should be supplied with fresh warm air and a foul air extracting flue. No metal ducts for fresh air supplies to class rooms should be allowed to cross the ceilings of these rooms, as the joints in the metal work and around brick openings can not be made tight, and the fresh air becomes foul. There is no particular advantage in placing the toilets in an annex with cut-off outside the building, except that it is more convenient to have these on a level with the class room floors, in which case the building will be more costly.

The thick porcelain slabs with backs are the neatest and best device for drinking fountains in the corridors; or, if economy is the word, you can obtain an iron fountain with push button instead of a faucet, and when painted white is neat, serviceable and cheap. Each pupil should have an individual cup or glass, and place for the same should be provided either in individual wardrobe, stall or desk.

The principal's and teachers' rooms should be fitted with water-closets and bowls of approved make.

There should be two sill cocks and supplies at the ends of the building with shut-offs inside and a hose bibb and sink for use of the janitor in the boiler-room. The practice of making one large foul air extracting flue answer for two or more rooms should never be allowed, it being a conductor for sound and foul air between all parts so connected. Each room should have an independent outlet. . . .

Cost of school buildings.—As we understand it, structures for this purpose are not to be erected as monuments to committees or the architects, they should be business buildings, neatly and plainly treated for the purpose, but not necessarily built like factories; it does not cost much to get breadth of treatment and architectural effect in a modest way. Unfortunately we have always been limited to cost. We can honestly say that the appropriations have never been exceeded; to the best of our ability we have included as much of the above points as the money at our command would allow. For high schools of brick and stone the price per cubic foot of contents varies in different localities from 11.2 to 12.5 cents; per square foot of ground covered for two stories of class rooms from $5.50 to $6.50, for three stories of class rooms $7.50. The cost per pupil averages $160 to $175.

The Montclair high school erected by us in the year 1892 cost as follows: per cubic foot 12.3 cents, $6.42 per square foot of area of first floor, or $160 per pupil, and accommodates 605 pupils. The most expensive schools we ever erected cost 15 cents per cubic foot, a limit which there is no necessity for exceeding. Brick grammar schools without assembly halls cost per square foot of first floor area from $4.50 to $5.50 and from 9.8 cents to 11.34 cents per cubic foot, and per pupil from $68 to $75. Brick grammar schools with assembly halls will cost about $80 to $85 per pupil. Wooden school buildings without assembly hall cost from 7 to 8.4 cents per cubic foot, $3.25 to $3.78 per square foot of first floor area and from $50 to $60 per pupil. Wooden school buildings with hall cost per pupil about $68.

The above prices include the building complete, including heating, ventilation, sanitary appliances and architects' services, without furniture. In estimating the cost of furniture, using adjustable desks of birch, adjustable seats, teacher's desk, swivel chair, extra chair, clock and shades, the cost per class room for primary schools is $167, for grammar schools $200, for high schools $250.

Dr. O. W. Braymer of Camden read a paper on

INFANT MORTALITY AND ITS CAUSES.

He said the frightfully great mortality is a well-known fact. The first year of life is the period of the greatest loss. Fifteen out of every 100 die; four times as many die in the first as in the second months; and almost as many during the two years after. One-tenth die before the eleventh day. Winckel says that 10 per cent. die before the eleventh day; one-fifth to one-fourth before the end of the fifth year; 20 per cent. before they are six months of age. What is the cause? There are several. Physical defects at birth; feeble system; proneness to contagious diseases; unwholesome surroundings; improper food; defects due to defective ova; maternal impressions or injuries, and diseased parents. Much can be done to reduce this rate from contagious diseases. The last causes we can readily see how to relieve. Congenital defects should be prevented by proper dress of the mother, as tight corsets or clothing prevent the expansion of the uterus during pregnancy. Injuries cause many defects, as blows, etc. Syphilis or tuberculosis also produces feeble offspring. Again, when births are too frequent the children are not strong and are made feeble by improper nutrition, and want of care. A blot on the enlightenment of the age is to allow felons, the syphilitic, the tuberculous, the weak-minded, etc., to propagate without restriction. These bring into the world children of no utility. Man is below all beasts save monkeys in having no control of his sexual desires. In rearing blooded animals, we expect to have the birth at the proper time of the year, of pure stock, and in a first-class condition. It is not so with the human being; no thought is given to this; children in the best families are not looked upon with joy. The authorities do not take enough interest as to hygiene of the home, and all that will conduce to the production of healthy children. The common people are not taught as to the value of cleanliness, fresh air, proper clothing; all this should be impressed upon them by persistent education along sanitary lines. It is difficult to make people believe that children should be dressed not as to season, but according to the temperature. There should be an interdiction of the old nurse's bottle with the tube by every board of health. This is the source of much injury to nursing children, as causing bad food to be taken during the time of nursing. We should go everywhere and teach morality, cleanliness and common sense; into the school room and teach sanitation in its fullest points; how to live and how to die; teach physiology of life, purity and health. We must not allow pride and the prevailing fashion and public opinion only to govern the growing child. Then the legislature must enact laws to prevent marriages of cripples, degenerates and the unhealthy. The conscientious minister must assist from the pulpit; he should be a physical exponent of the hygienic laws. The legal profession must assist by enforcing the laws so enacted; all can help by teaching hygiene and sanitary science, and the great reform can be quickly and easily obtained if the National government will heed the crying need and give us a Department of Public Health.

(To be continued.)

SELECTIONS.

Vaccinia Inusitata.—Dr. Lamb reports two cases of unpremeditated vaccination, as follows: "On Nov. 21, 1897, I was called to see a man and his wife, having six weeks previously vaccinated their child. The parents had during this period been attending to the child's arm, which was discharging some clear fluid, and the vaccination marks were covered with brownish crusts. No definite history of inoculation could be got; but on several occasions the husband had attended to the child's arm before getting out of bed, and had then urinated without previously washing his hands. On November 17 he complained of some pain and tenderness in the groin and also noticed some swelling in that region. He discovered some marks on his penis but did not take much notice of them. On the same day his wife had pain on micturition, but had no vaginal discharge. On the 18th the swelling was more noticeable and the pain and tenderness were much increased. His wife also had a small swelling in the right groin. On the 21st both husband and wife were worse. On examining the husband I found the horizontal inguinal glands were much enlarged on either side, and were also painful and tender. On drawing back the prepuce I saw five typical vaccination marks about a week old on the glans penis. The vesicles contained a very small quantity of lymph. There was no urethral discharge. His wife had two vaccination marks one just inside the labia and the other at the margin of the orifice of the urethra, the latter accounting for the pain on micturition. They seemed to be about the same age as those on the glans penis of the husband. There had been no sexual intercourse since the 14th. On the 22d the conditions were more aggravated in both cases. In the husband's case there was some swelling of the penis, and by the 23d that had become so great that the prepuce could not be retracted, and there was some discharge coming from the glans but none from the urethra. On the 27th the glands in both were nearly their normal size and all the local conditions in both husband and wife were not so great, although the wife had still some pain on micturition and a slight discharge from the vagina. On the 29th the husband returned to his work and his wife was able to resume her house duties without any discomfort. The mode of onset and the subsequent history with their complete recovery in so short a time leave no doubt as to the true nature of the case.—*London Lancet*, January 1.

Treatment of Chlorosis.—Dr. Latham of London writes to the *Practitioner*, October, an interesting contribution regarding the treatment of anemia and chlorosis. He has found the following treatment serviceable in many cases of chronic chlorosis:

Tinct. ferri perchlor	m.x–xx.
Sp. ætheris sulph	m.x–xv.
Tinct. nucis vom	m.x.
Tinct. quassiæ	m.xxx–xl.
Aq. ad	℥iss.

To be taken twice a day, an hour before luncheon and dinner.

It has been said that when iron is tolerated in chlorosis, the

remedy "is only effectual when given in large doses"—in such doses as will render the alkaline sulphids formed in the intestine inert. I dissent altogether from this plan of treatment. Large doses not infrequently set up considerable intestinal irritation, a febrile condition, palpitation or headache. "Every physician is acquainted with the symptoms which arise when young girls have taken large doses of iron for some time. Irritation of the abdominal organs, which evidently begins in the intestine, is set up, and may extend to the peritoneum and be accompanied with the usual symptoms, pain, discomfort, a tendency to vomit, diarrhea or constipation and general exhaustion; the last, however, not being apparently dependent upon the condition of the abdominal organs. These symptoms may persist for some days even when the iron is immediately discontinued, and may then gradually subside."

It is well then not to exceed moderate doses of iron; but, if necessary, we should endeavor to limit the formation of the alkaline sulphids in the intestine by other means. One of the most effective ways of doing so is to ensure a daily, satisfactory and natural action of the bowels. Constipated bowels may, as Sir Andrew Clark pointed out, lead to the absorption into the circulation of toxins, which then have a destructive action upon the red corpuscles.

An Irish Surgeon's Adventures in Turkey.—Surgeon Charles S. Ryan, formerly with the Turkish army in the warfare of ten years ago, has written a charming narrative of his experiences in the Orient. The *Lancet* dubs the book by the title "Phil Fogarty II." for the adventures which the author relates are even superior to the experiences of the Thackeray-Lever hero. Dr. Ryan is an Australian Irishman, and evidently possesses qualities eminently suitable for an army surgeon; indomitable pluck, cheerfulness under the most depressing conditions and, above all, the quality of sympathy. Dr. Ryan finished his medical education at Edinburgh University and was enjoying a holiday when he saw an advertisement from the Turkish Government inviting applications to serve as an army surgeon. He at once applied and was accepted, and the first post to which he was appointed was the camp outside Widdin. Of his work here he gives the following picture: "Half a mile from the camp was a large marsh or swamp, where great white arum lilies grew, with jonquils, narcissus, and the different kinds of iris in magnificent profusion, as well as millions of the tiny white snowflakes. I had a trench dug outside my tent, and once a week our two servants . . . brought back barrowfuls of flowers, which I planted in the trench. Here, too, the orderlies made us a great seat of turf and every morning from six o'clock till half past nine, I sat there among the flowers to receive my patients, who used to come up from the various battalions to have their ailments treated. As I sat on my throne of turf I had a sack full of Epsom salts beside me, together with a bucket of water and a pannikin, so that when the patient had swallowed a handful of salts I presented him with a pannikin of water and washed the nauseous mouthful down." Dr. Ryan was soon, however, to see very different work. His account of the siege of Plevna and the appalling state into which the hospital got toward the end of that magnificently borne time of trial reads like a chapter from the "Inferno." We must not quote any more, but will only say that after getting out of Plevna, Dr. Ryan volunteered for service with the Stafford House ambulance for service in Erzeroum. Here things were, if possible, worse than in Plevna. Typhus fever, cold and starvation added to the misery of wounds made up a terrible tale. We can sympathize with Dr. Ryan's trials on his journey from Erzeroum to Trebizond, and from a personal experience of the country we know what he must have undergone. Every one should read this book; it is a plain unvarnished tale of what goes on in war, and takes us back to the simplicity of MM. Erckmann-Chatrian, whose war stories are, we think, superior to those of Zola, except perhaps his "Attaque du Moulin." The style is easy and eminently readable.

Some Animal Substances used as Remedial Agents a Century or More Ago.—*Human skull* (cranium hominis). The powder, in doses of one dram, used in epilepsy; those a long time buried said to have been preferred, and some even limited the remedial action to the os triquetrum (bone of the carpus, situated between the os lunare and os orbiculare).

Paring of the nails (rasura unguis). A common emetic.

Mummy (mumia). Either that brought from Egypt, or prepared by dipping muscular flesh in spirit of wine and hanging it up in a brisk draft of air, or smoking it like ham. Used in bruises, epilepsy, asthma, phthisis, in powder ½ to 1 dram. Classified by one writer (1753) as a vulnerary.

Puppies (catelli). Live puppies, split in half and applied while warm; employed as poultices "to draw venom" from sores or boils. The puppies were sometimes boiled first in oil to make the poultice "mucilaginous."

Wolf's liver (hepar lupi). Used dried in diseases of the liver.

Fox lungs (pulmones vulpis). Used when dried and powdered in a pectoral linctus. This remedy was a great favorite among the common people. One writer says that the lungs of a fox must be a specific for asthma because "that animal is remarkable for its strong powers of respiration."

Huckle bone of the hare (astragalus leporis, talus leporinus). Diuretic powder.

Hare's fur (pili leporis). Styptic.

Musk (moschus). Antispasmodic and diaphoretic. The author of the New Dispensatory (1753) quaintly remarks that in his day "it has been for some time out of use, even as a perfume, on a supposition of its occasioning vapors, etc., in weak females and persons of sedentary habits."

Elk's hoof (ungula alcis). Anti-epileptic, either worn externally, so as to touch the skin, or taken in powder in doses of one dram. Said to "smell very sweet, by which it may be distinguished from a buffalo's hoof, which is sometimes sold for it."

Bone of a Stag's heart (os e corde cervi). Cardiac, esteemed to remove barrenness and prevent abortion. Dose, in powder, one dram.

Hartshorn shavings (rasura cornus cervi). The horns of the buck or fallow deer. To quote the New Dispensatory (1753), "Many extraordinary virtues have been attributed to these horns, and to all the parts of the animal in general; but experience gives no countenence to them; nor do they seem to have any other foundation than the great timidity of the hart, the annual removal of his horns, and an opinion of an extraordinary longevity; from these circumstances it was inferred that all parts of him must be proper for intimidating the enraged archeus, renewing health and strength, and prolonging life."

Boar's tooth (dens apri). Used as hartshorn shavings, but of greater value.

Rhinoceros horn (cornu rhinocerotis). Alexiterial, in powder; dose one dram.

Unicorn's horn (cornu unicornus). Resists the operation of poisons.

Inward skin of the fowl's gizzard (pelliculæ stomachi gallinæ interiores). "To strengthen the stomach."

Egg shell (caro testudinis). "Highly nutritive, analeptic and antiscorbutic." (Gray.)

Skinks (scinci). Dried, salted and powdered skins were considered alexipharmic, aphrodisiac and diuretic. Were also used in the preparation of the "mithridate."

Scaly lizard (lacerta agilis). Was sometimes used instead of skinks.

Vipers (viperæ). Both live and dried; were official in the Edinburgh Pharmacopeia and considered "alexiterial, sudorific, depurative and very nutritive." An old work on materia medica discusses the subject in part as follows: "The viper or adder is one of the viviparous reptiles, without feet, about an inch in thickness, and twenty or thirty in length. The poison of this serpent is confined to its mouth, at the basis of the phangs, or long teeth which it wounds with, is lodged a little bag containing the poisonous liquid, a very minute portion of which, mixed immediately with the blood, proves fatal; our viper catchers are said to prevent the mischiefs otherwise following from the bites by rubbing olive oil warm on the part. The flesh of the viper is perfectly innocent and strongly recommended as a medicine of extraordinary service in scrophulous, leprous and other obstinate chronical disorders; its virtues, however, in these cases are probably too much exaggerated. The viper is undoubtedly an high nutritious food, and hence, in some kinds of weaknesses and emaciated habits is not undeservedly looked upon as a good restorative. To answer any valuable purposes, fresh, vigorous vipers (not such as have been long kept alive after they are caught) should be liberally used as food; the wines and tinctures of them can scarce be supposed to receive any considerable virtue from the animal(?); the dry flesh brought from abroad is entirely insignificant."

Toad (bufo). The toad "dryed by a gentle heat and pulverized" was greatly esteemed as a diuretic and antihydropic. Dose in powder, to one dram. Applied externally to the abdomen to restrain "haemorrhagies." "Bufo Præparatus" or "prepared toad," was officially manufactured by the old Edinburgh Pharmacopeia as follows: "Put live toads into an earthern pot and dry them in an oven moderately heated till they become pulverable."

Prepared goat's blood (sanguis hirci præparatus, Edinburgh Pharmacopeia). "About the beginning of summer, take blood from any convenient artery of a middle-aged goat and expose it in a clear vessel to the sun, or a moderately heated oven, till sufficiently dried." Paris, the author of "Pharmacologia," and professor of materia medica in the Royal College of Physicians, London (1819–21), quoting from Browne's "Vulgar Errors," states that in many of the ancient works on physic, the blood of the goat was extolled for its efficacy in dissolving stones, and from this supposed lithotriptic virtue, it forms the principal ingredient of the "Powder of Nicolaus" and of the "Electuary of the Queen of Colein." The expression which gave origin to this belief was evidently allegorical, signifying that the blood of the goat, by which our Savior was typified, was capable of softening the stony hearts of his enemies, or according to others, that by his influence the stony rocks and veil of the temple were shattered.

Frog's spawn (sperniola, ranarum sperma). "Celebrated as an excellent cooler for external purposes"; also used as an ingredient of a distilled "simple water."

Salamander (salamandra). Prepared by infusion in oil. Used by internal administration as a diaphoretic; externally, useful in rheumatism.

Bone of the perch's head (os e capite perciæ). Absorbent, lithotriptic; externally in tooth powders and to dry ulcers.

Pike's jaw bone (mandibula lucii). In powder, useful in leucorrhea and to facilitate labor; dose 1 to 2 drams.

Liver of eels (hepar anguillæ). Used dried and powdered, to facilitate labor; dose 1 to 2 scruples.

Hog lice, wood lice (millipedes, etc.). Alive, No. 12 (Gray) or dried and powdered, in dose of one to three scruples; used as a diuretic, "aperitive," and in the treatment of jaundice. Millipedes were official in the early editions of both the London and Edinburgh Pharmacopeias.

The insect kingdom was also called upon to furnish scorpions, beetles, bedbugs, ants, bees and a number of other substances, like cantharides, cochineal, etc., used more or less at the present time.—*Pharmaceutical Era*, January 6.

PRACTICAL NOTES.

Negative Antibacterial Effect of Tannin.—Sabrazés states that tannin has no antibacterial effect. On the contrary, it rather seems to favor the development of Koch's bacillus *in vitro* and in the guinea pig.—*C. R. Soc. de Biol.*, 1897, No. 40.

Lymph Glands in Carcinoma.—The importance of exterminating the lymph glands even down to the base of the broad ligament, in carcinoma of the uterus, as in carcinoma of the mamma, was emphasized at the Moscow Congress, and for this reason the abdominal route recommended.

Absorption of Antitoxin in the Alimentary Canal.—Escherich has established the fact that diphtheria antitoxin is readily absorbed by infants if administered per os or per rectum, but that it is not absorbed by older children or by adults when administered in this way.

Chlorid of Zinc in Gynecology.—For cauterizing the uterus after curettement, or in case of erosions, Schlapobersky has found a 20 per cent. solution of zinc chlorid extremely effective and satisfactory in every respect.—*St. Petersburg Med. Woch.* December 25.

Powders for Migraine.—Antipyrin and potassium bromid, aa. 50 centigrams; cocain hydrochlorate, 1 centigram; caffein, 2 centigrams; pulv. paullinia sorbilis, 30 centigrams. For one powder. Make six. Take one at the first indication of migraine.—A. Rohin in *Semaine Méd.*, January 19.

Xerophthalmia.—E. Neznamov cures xerophthalmia by bathing the conjunctiva with a salt solution to which a little sodium bicarbonate has been added; then swabs lightly with sulphuric ether on a cotton tampon. The lachrymal secretion is also stimulated by an occasional whiff of some ammoniac liquid during the day.—*Semaine Méd.*, December 29.

Bronchial Asthma.—The injection of a Pravaz syringe of the following fluids will sometimes arrest an attack of asthma; occasionally two or three injections are required: Morphin sulphate 75 milligrams; strychnin sulphate, 1 centigram; hyoscin hydrobromate, 3 milligrams; aq. dest. 10 grams. For hypodermic injections.—S. Solis-Cohen, *Semaine Méd.*, December 29.

Anesthesia of the Urethra by Rectal Injections.—Morphin hydrochlorate, 15 centigrams; atropin sulphate, 5 milligrams; aq. dest. 50 grams. For external use. Two to four grams of this solution injected into the rectum will completely abolish sensibility in the posterior urethra.—M. Scharf, *Progrès Méd.*, December 25.

The Value of Filmogen is cordially endorsed by Unna in the *Monatsheft. f. prakt. Dermatologie*, Vol. xxv, No. 4. It is an insoluble varnish superior to collodion, etc., for several reasons, taking up medicaments readily and adhering to moist surfaces. Unna has obtained remarkably favorable results in infantile intertriginous eczema, with 5 per cent. ichthyol in filmogen (*vide* JOURNAL, Vol. xxvii, No. 24). It is readily removed with alcohol or ether.

Treatment of Orchitis.—Du Castel disapproves of keeping patients with orchitis in bed, and has been very successful with a compressing cotton-lined suspensory, allowing the patient to pursue his usual occupations, after the pain has been relieved by painting the effected part with methyl or ethyl chlorid, which produces refrigeration similarly to ice, recommended for the purpose by Diday. He has cured in this way cases complicated with severe vaginalitis, and in chronic cases rebellious to all treatment finds this method as satisfactory as any.—*Semaine Méd.*, January 19.

Aluminium Acetate in Uterine Hemorrhages.—The hemostatic, antiseptic and astringent properties of this substance render it an effective means of arresting hemorrhage from the uterus, post partum or otherwise. Kalenscher makes the injection through a rubber tube attached to the end of a syringe holding 20 to 30 c.c. of a 3 per cent. solution, introducing it into the uterus. The astringent power is such that the vagina contracts until it is difficult to insert the finger. Three to five injections are usually required.—*Semaine Méd.*, January 19.

Alcohol as a Disinfectant.—Recent researches seem to show that absolute alcohol is devoid of all disinfectant properties, whereas proof spirit (50 per cent.) gives more tangible results in this direction than either stronger or weaker solutions. Antiseptic substances which, in aqueous solution, are more or less active germicides, entirely lose this property when dissolved in strong alcohol, but, on the other hand, corrosive sublimate, carbolic acid, lysol, and thymol, dissolved in a 50 per cent. solution of alcohol, disinfect better than aqueous solutions of the same strength.—*Med. Press and Circular*, January 26.

Organ Therapeutics in Infantile Nephritis.—Concetti announces extremely favorable results from the administration of renadene (an article manufactured from the kidneys of young pigs, mixed with sugar of milk) to six children under 5 years of age. Three were cases of acute primary nephritis, the others were chronic cases consecutive to scarlet fever or whooping cough. As much as four grams a day were given and it was always well tolerated. The improvement in the general condition was "rapid and conspicuous," and all the local symptoms progressively disappeared. The acute cases were attenuated and promptly recovered. The usual hygienic measures were applied at the same time.—*Gaz. d. Osp. e d. Clin.* December 26.

Iodoformed Salol in Tuberculosis of the Bones.—P. Reynier confirms his former announcement in regard to the benefit derived from salol heated to 48 degrees C. with iodoform (at which

point it melts, crystallizing into a solid mass as it cools), injected into tuberculous lesions of the bones, the soft parts over it sewed up at once, without drainage. In one of the six cases he reports, the patient's leg was amputated one year after on account of the spread of the disease. The injected spot was found entirely healed, the salol forming a solid adherent block, hard to be detached. The Soc. de Chir. does not endorse the method, observing that it promises no better than Reclus' iodoform salve, which did not survive, and the *Cbl. f. Chir.* agrees with this opinion (November 13).

Bromid of Ethyl in Hysteric Aphonia.—Arslan reports five cases of hysteric aphonia in women treated with success by bromid of ethyl. The patients were rapidly anesthetized with full doses (10 g.) of the drug and as soon as they were partly insensible, it was suggested that they shout loudly their name, count numbers, etc. The results obtained by the method were satisfactory. In four of the cases there was evidence of disease in the nasopharynx. In three cases influenza was an exciting factor.—*Gazetta degli Ospitali.*

Improved Local Anesthesia.—Operations on fingers and toes, ingrowing nails, panaritium, etc., are the most difficult to anesthetize with the Schleich method, and yet they are the most frequent in general practice. Oberst's method is simple and effective for these cases. The finger or toe is first raised to expel the blood, and the central end, as close to the field of operation as possible, is wound once or twice with an elastic cord, the ends not tied but held with a clamp. Cocain is then injected in the four sides of the finger, directed toward the tip, just below the ligature. The anesthesia is complete in three to ten minutes, tested with a prick, and lasts as long as the circulation in the part is arrested. This method has been followed at Breslau in 124 cases of the kind with such satisfactory results that Honigmann recommends it warmly in the *Cbl. f. Chir.*, December 25.

Treatment of Hemiplegia with a combination of passive gymnastic, baths and go-cart. Huchzermeyer of Oeynhausen advises commencing the treatment promptly, not waiting for complications to develop. He applies it to hemiplegia without regard to the etiology. Commencing with passive exercises of the affected and also of the sound members, half an hour twice a day, stretching, twisting, turning, etc., until every muscle has had its due share of gentle exercise. He considers electricity and massage superfluous in many cases and injurious in others, but supervises the diet and gives four or five salt baths a week at 26 to 27 degrees R., which he considers a most important factor in the treatment. The patient often feels his first spontaneous movement as his members are buoyed up in the dense salt water. The same effect on a larger scale is obtained by a large go-cart, such as is used to teach children to walk, which holds the body in an upright position and allows the patient to swing his legs with the slightest effort of the muscles. The patient recovers under this treatment with remarkable rapidity and completeness.—*Deutsche Med. Woch.*, January 6.

Traction of the Tongue in Apparent Drowning.—A report was recently published in *La Tribune Médicale*, which appears to illustrate the value of traction of the tongue in the restoration of the apparently drowned. A boy fell into one of the docks at Havre, and was not recovered till he had been immersed fully five minutes. He was quite unconscious when brought to land, but a custom-house officer at once proceeded to perform artificial respiration by Laborde's method (rhythmic traction on the tongue), while other attendants rubbed him vigorously and blew air into his mouth. In half an hour signs of life reappeared in the form of respiration and a few moans. He was quite two hours longer before completely recovered. Our contemporary considers that the fortunate result was mainly due to the tractions on the tongue, and with Dr. Gilchrist of Nice, who has called our attention to the report, suggests that it should be made widely known through the lay press that traction on the tongue repeated regularly fifteen times a minute, is a highly efficacious treatment in many cases of apparent death from asphyxia—*Brit. Med. Jour.*, January 29.

NEW INSTRUMENTS.

AN ELECTRIC STERILIZER FOR INSTRUMENTS IN EAR, NOSE AND THROAT PRACTICE.

Read by title at the Tri-State Medical Society, Louisville, October, 1897.

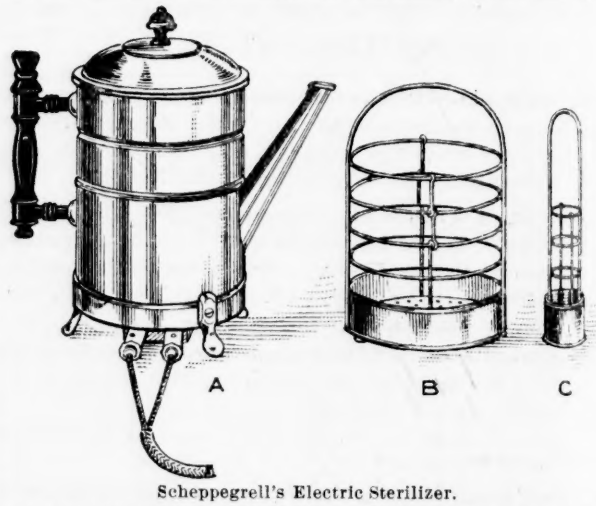
BY W. SCHEPPEGRELL, A.M., M.D.
NEW ORLEANS, LA.

The necessity of sterilizing all instruments for surgical operations has been so thoroughly instilled into the minds of medical men that we rarely find a surgeon who does not give careful attention to these details. Many forms of sterilizers have been suggested for preparing instruments for surgical operations, and the majority are of more or less practical value. A subject, however, to which the same amount of attention has not been given, is the preparation of instruments in ordinary use in office practice. It otolaryngology this refers especially to nasal and oral speculums, tongue depressors, applicators, etc. Each of these may be the means of carrying infection, unless the same attention is given as in the preparation of instruments for surgical operations.

A probable reason why more consideration has not been given this subject is the difficulty of arranging a suitable apparatus in a private office without the disagreeable effects of the heat and odor arising from the sterilizing process. Alcohol and gas lamps each have an objection in this connection. For the purpose of facilitating this matter I have recently devised an electric apparatus, which may be used not only for preparing instruments for operations, but more especially for sterilizing those in ordinary use. As this method obviates the odor from the products of combustion from oil, gas and alcohol lamps, and the inconvenience of using these where there is a current of air, it has displaced all others in my office.

A vessel of two quarts capacity is used, the heat being obtained from fine German silver wire at the bottom of the vessel, as in electro-culinary utensils. In this way boiling water may be obtained in a few minutes.

In this vessel (A), when used for sterilizing, a wire cage (B)



Scheppegrell's Electric Sterilizer.

containing the instruments is lowered into the vessel and left sufficiently long to become thoroughly sterilized. A smaller cage (C) is made for applicators. All metallic instruments used in the office may be prepared in this manner and may be made thoroughly aseptic.

In regard to the economy of this method, it has been shown by James S. Stevens and Burton S. Lanphear (*American Electrician*, September, 1897), that if electric energy can be furnished for fifteen cents per kilo watt hour, which is believed to be slightly in advance of the average rate, the use of the electric heater is about 30 per cent. cheaper than the commercial (95 per cent.) alcohol for the kind of work for which these heaters are designed.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:
Per Annum, in Advance $5.00
Foreign Postage 1.75
Single Copies . . . . . 10 Cents.
In requesting change of address, give *old* as well as new location.
Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. 61 Market Street (Occidental Buildings), Chicago, Illinois.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

This is obtainable, at any time, by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr. Henry P. Newman, 100 Washington St., Chicago, Ill., sending him a certificate or statement that the applicant is in good standing in his own Society, signed by the President and Secretary of said Society. Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership.

On receipt of the subscription the weekly JOURNAL of the Association will be forwarded regularly.

Gentlemen already members of the Association should send their annual subscription to the Treasurer, or direct to the JOURNAL office.

All communications and manuscript of whatever character, intended for publication in the JOURNAL, should be addressed to the *Editor*, and all communications relative to the business of the JOURNAL, proof sheets returned, or in regard to subscriptions, should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 61 Market Street (Occidental Buildings), Chicago.

Original communications are only received with the understanding that they are exclusively contributed to this JOURNAL.

SATURDAY, FEBRUARY 26, 1898.

THE ANNUAL MEETING OF THE TRUSTEES.

The Trustees met in annual session, according to the regulations, February 15. All the members were present and the usual routine matters disposed of.

The affairs of the JOURNAL have been very prosperous this year as compared with former years. The circulation has greatly increased, and the finances of the ASSOCIATION have never been in better condition.

The Board adjourned to meet in Denver on Monday, the day before the meeting of the ASSOCIATION. The formal announcement of the special train will not be made until the question of rates by the railroads shall have been definitely settled.

Among other items of general interest to the ASSOCIATION may be mentioned that the Trustees authorized the engaging of a special JOURNAL TRAIN from Chicago to Denver. A committee was appointed to have charge of the same, consisting of the Editor of the JOURNAL and Dr. TRUMAN W. MILLER, with such assistants as they might select from the members of the ASSOCIATION. It was decided that some features of former trains, which have been considered objectionable by many, will be eliminated.

DECREASE OF DEATH FROM CONSUMPTION.

A recent issue of the JOURNAL (Feb. 5, 1898) contained thirty-five pages of matter on the subject of pulmonary phthisis, contributed by nine different writers, scattered from the Atlantic to the Pacific coasts, and during the past decade an enormous amount of more or less valuable similar literary effort has been devoted to the "great white plague." Since the publication of this last batch of papers the JOURNAL has undertaken to ascertain the effect of this agitation during the last ten years, and the results of the inquiry are decidedly reassuring, at least as to the disease in urban populations.

Roughly stated, twenty principal cities, having an aggregate population of about seven and a half millions (7,478,506), in 1888, had nearly twenty-five thousand deaths (24,708) from consumption in that year; in 1897 the same group of cities, with an aggregate population of nearly ten millions (9,971,341), had a little more than twenty thousand deaths (20,161) from this cause. In exact percentages and per milles the following are the figures: Death rate per 10,000 of population from consumption in twenty cities, in 1888, was 33.03; in 1897 it was 20.21; decrease in death rate 38.8 per cent. Actual decrease in number of deaths, 4547. Actual increase in population, 2,492,835; per cent. of increase in population during the decade, 33.33.

In four of the reporting cities, namely, Minneapolis, St. Paul, Denver and Omaha, there is an actual and relative increase—due, as to the first three, to the increasing number of imported cases, concerning which Health Commissioner MUNN of Denver estimates that 85 per cent. of all consumptive patients in that city are exotic. Among the remaining sixteen cities the most notable reductions are Buffalo, 46 per cent. decrease; Cincinnati, 44 per cent. decrease; Philadelphia, 43 per cent. decrease; New York, 30 per cent. decrease; Brooklyn, 28 per cent. decrease; and Chicago, 24 per cent. decrease.

Of those who assign causes for this decrease, Dr. BENJAMIN LEE, health officer of Philadelphia, gives the following: "First, improved pavements; secondly, improved drainage; thirdly, generally improved sanitary condition of small streets and alleys; fourthly, the diffusion of information by the Pennsylvania Society for the Prevention of Tuberculosis; fifthly, notification by physicians and disinfection of premises, both prescribed by the City Board of Health."

New York tersely ascribes the result to "clean streets, cattle inspection and treatment of tuberculosis as infectious." Dr. S. H. DURGIN of Boston, to "better care from increased knowledge, better isolation, clothing and shelter, greater cleanliness of person and environment." Dr. MAX C. STARKLOFF of St. Louis to "education of the public to appreciate its contagiousness, observance of health department notices against expectoration in public places, and fumigation of premises where death has occurred." Dr. J. M. WITHROW of Cincinnati says: "The decrease is largely due to isolation of consumption patients in hospitals and the practice of sending all city hospital consumptives to a special isolation hospital in the country." And Dr. W. C. WOODWARD of Washington, D. C., thinks it is due to "improved modes of living."

To all of which, and much more of the same sort, the JOURNAL begs leave to add a factor entirely and somewhat naturally overlooked by the health authorities, to wit, the earlier recognition of the disease and its improved and more successful treatment by the medical profession. This factor will undoubtedly account for a large share of the apparent reduction shown in the foregoing figures—a reduction which, it is to be borne in mind, is "apparent" to the extent that they deal only with urban populations and take no note of the increasing numbers of consumptives who are sent away and die in sanatoria, health resorts and elsewhere.

THE "MICROBES" OF RHEUMATISM.

The popular or prevalent theory of the nature of acute articular rheumatism may be assumed to be, at the present time, that of its bacterial or infectious origin. The exact microbe which causes it has been so far unknown, and there may yet be in the minds of some a reservation of doubt as to the above stated pathology. The fact that acute rheumatism is not unknown or infrequent in the polar regions, where NANSEN is said to have suffered from it, may not be much of an argument against this origin of the disease, but it suggests at least a relationship to other diseases that are prevalent in Arctic climates and that are more generally attributed to irregular or morbid metabolism in the system than to living germs from without. The various bacteria, that have been credited or suggested as producing this disorder, by LUCATELLO, SAHLI, LEYDEN and others, have not been generally accepted as having such function by those best qualified to judge, and it has commonly been relegated to the large class of presumably or more or less certainly infectious diseases of which we are yet ignorant of the inciting germ.

The most recent researches in this special direction are possibly a little more suggestive and promising than any that have preceded them. In the November issue of the *Annales de l'Institut Pasteur*, M. ACHALME publishes an account of an organism that he has found most abundantly in the autopsies of two fatal cases, but also in the blood of living subjects of rheumatism and which from its behavior in control experiments and cultures appears to be possibly connected directly with the disease. It was a thick rod-like bacillus, not dissimilar to that of anthrax, exclusively anaerobic, requiring for its culture a very complete vacuum, staining readily by anilin and by the WEIGERT and GRAM methods. Its cultures give rise to lactic acid and an odorous mixture of acetic, butyric and propionic acids; its development was arrested by very small amounts, less than those required for other organisms, of sodium salicylate.

When inoculated into guinea pigs it caused the characteristic symptoms, infiltrations, pleural effusions, etc., of rheumatism, the animals succumbing in twenty-four to thirty-six hours. In rabbits endo-pericarditis and pleurisy closely resembling those in the human subject followed the injection of serum from inoculated guinea pigs. The bacillus readily associated itself with other microbes, especially streptococci, and seemed to favor their penetration into the organism.

The discovery of ACHALME is to a certain extent corroborated by two later investigators, M. TREBOULET and COYON, who reported their results to the Société Médicale des Hôpitaux, Paris, on December 24. They made a special search for ACHALME'S bacillus in a number of cases of rheumatism, and in every patient examined they found a special form of diplococcus, oblong, always in pairs, about two microns in diameter, to a certain extent anaerobic, and not decolorized by GRAM'S method. In two very severe cases of rheumatism, however, they found ACHALME'S bacillus, and also in certain autopsies, associated with their own diplococcus. According to their observation the bacillus appears to be only associated with the severer forms of rheumatism, while they suggest that their own discovery, the diplococcus, may be the common microbe of the disease.

Whatever may be the estimate of the importance or value of these researches, they are in the right direction, and should lead to still further studies upon this subject. There are relations between acute and chronic rheumatism also that require elucidation, in fact the whole subject is a broad enough one to engage attention for some time to come; there is not much danger of the immediate exhaustion of the field for research in this special direction. There are other bacilli that produce lactic acid and that succumb to the salicylates than that described by the French author, but his discovery has enough special characteristics to suggest a possible connection between it and the severer manifestations of acute rheumatism. The diplococcus found by the other observers may or may not be found later to be directly connected with the lighter phases of the infection; it certainly deserves a further study as to its reactions and development. The lead thus opened will undoubtedly be followed up and it is to be hoped will before long give us some more definite knowledge than we now possess of the real nature of the rheumatic poison.

THE FREE MEDICAL AND SURGICAL TREATMENT OF THE WELL-TO-DO IN MICHIGAN UNIVERSITY.

Since their establishment the Clinic and University Hospital at Ann Arbor have, as a rule, treated all who applied. Occasionally a particular professor would object to treating a notoriously rich person, but no rule has been adopted. Moved, doubtless by

the protests of the profession and their own sense of equity, the medical faculty requested the Board of Regents at a late meeting to exclude all well-to-do people seeking admission to the University Hospital. The board has the matter under consideration. It is reported in the public press that the majority are opposed to such exclusion of the rich. They hold that the hospital is for teaching students of the medical department, and that a millionaire makes just as good a subject for teaching as a pauper; that he pays taxes to the support of the hospital, and so has a right to the free services of the University Hospital staff.

This view of their duties is quite at variance with that held by the people who elected the regents. The latter expect the regents to conduct the University Hospital and Clinic in such a manner as to teach the medical students practical medicine and surgery, without disturbing the interests of any class of citizens, and without promoting discord between classes, or antagonism to the university based upon unjust discrimination.

First it is creditably stated that the University Hospital would be full from the ranks of the poor, if only the rich were excluded. Hence there is no need to admit the rich for the purpose of augmenting the size of the clinic. It is also creditably stated that the character of cases presented by the well-to-do, differs in no essential respect from those of the poor; all are of the chronic order admitting of transportation over long distances, as cases of cataract, chronic surgical injuries or diseases. Hence on the ground of quality of cases there is no reason for the admission of the rich to the Hospital for the benefit of the students.

But the regents were chosen to conduct the Hospital for the benefit of all the people of the State, so that it is pertinent to inquire respecting this benefit. An illustration or two may aid us to understand the effect of free treatment of the rich at the University Hospital. A friend of the writer living in western Michigan told him that for years the only way he could keep any case of cataract, or other operative case on the eye, was to figure out the railway fare to and from Ann Arbor and the cost of two weeks board at three dollars per week, and offer to do the operation for the resultant sum. Before he adopted this rule all well-to-do people went to the University Hospital. The fact of the free treatment of the rich at the University Hospital, was the club used by the rich to compel his working at utterly inadequate prices. Even those who had no idea of going to Ann Arbor used this club of the Free University Hospital to compel him to meet the competition of that institution, to support which he was taxed. He observed that these same people developed the habit of beating others on all possible occasions, apparently because they had beat the State out of services for which they were able to pay. He also said that there was much grumbling on the part of persons of moderate means, because their rich neighbors got for nothing services for which they paid—grumbling directed against the University.

Another practitioner in a different portion of the State would not adopt this plan; as a consequence nearly all well-to-do operative cases left him and were treated at the Free University Hospital. What work this man did, he insisted on being paid for in a reasonable manner; the result to his practice was evident. The cases that were able to pay largest fees went to Ann Arbor and were treated for nothing.

These two practitioners are types of all who treat chronic medical or surgical cases, and they illustrate the effects of the Free Hospital service at the University. The rich have been encouraged to try and get something for nothing, thus engendering a spirit hostile to the best citizenship. The poor have been crowded from the place and service intended for them, and so wronged. While persons of moderate means who regularly pay their medical advisers, are dissatisfied with being also forced to pay taxes in support of a hospital, physicians and nurses, for the free treatment of their rich neighbors. It is obvious that the Free University Hospital undermines the financial support of the medical profession both directly and indirectly; directly, in that their own rich patients are lured away by the cheapness of the Hospital; indirectly, in that many well-to-do people by the threat of going to the Free Hospital, compel services at rates far lower than rates for such services in regions distant from the influence of the University Hospital. It is thus evident that the value of the University Hospital would in no respect be impaired by restricting admission to those unable to pay for medical services. The quantity of patients would be as large as it could accommodate, and the quality all that can be secured in a small town. Therefore the interests of the Hospital would be advanced by restricting admission to the poor.

It is farther evident that the interests of rich, poor and those in moderate circumstances unite with those of physicians in demanding that the University Hospital be closed to those able to pay for medical services.

It is hoped that the Board of Regents will regard their obligations to the Hospital, to the University, to all citizens of the State and heed the request of the Medical Faculty.

THE APOTHECARY.

Our editorial on the "Passing of the Apothecary" seems to have provoked considerable discussion, some in concurrence and some adverse, and we have been "roasted" with great unction in some pharmacy journals. It was not intended to belittle the profession of pharmacy but merely to show the trend of the times. One of our correspondents (in January 15

issue), in trying to show that we are mistaken, confirms much that we said but blames it all on the physician. "We are compelled to load down our shelves with a dozen makes of pills, etc., merely to please the physician." And he concludes by saying that "the lot of the pharmacist is not a happy one" because the physician allies himself with the manufacturing chemist to enrich him and help himself.

This is the very point. Why does the physician ally himself with the manufacturing chemist? Why do men standing at the topmost rung of the profession agree to become consulting therapeutists for commercial concerns? Why do chemists of international ability become the attachés of these establishments? Is it commercialism that is at the bottom; is it according to an industrial evolutionary law? We did not answer these queries, we simply mentioned the fact as it exists. And while there are many able, intelligent and exceptionally well educated men in the profession of pharmacy, some better educated than many physicians, we still maintain that, in certain cities at least, there are numerous drug stores conducted by individuals who have studied a few months or more and passed a haphazard examination, and who conduct a variety store rather than an apothecary shop, who are merely agents for the wholesale houses. We know at least a half dozen stores in one large city, run by the wives of young men who themselves one year before were workmen in some other trade. While there are probably more college trained men in the profession of pharmacy today than ever, yet we affirm that today it is possible as it never was before, for a person to dispense medicine in a large city who does not know how to make a tincture, a pill, a suppository or any of the ordinary preparations called for. That these things are done for him, and apparently satisfactorily, by large concerns whose tendency is to grow larger and to embrace more and more the work of the individual pharmacist. It is true that the department stores do handle toilet articles, etc., and even patent medicines and quinin pills, but glance into the windows of the metropolitan fashionable drug shop and see what importance is given to bric-a-brac, to the *bar*, to soaps and perfumes and candies! We regret the departure of him of "the mortar and pestle," and if it be true, as our correspondent says, "that better days are in store for him," we congratulate him. We feel, however, that this thing is not of the physician's doing, though he is drawn into the struggle, but that it is the result of a chain of circumstances peculiar to the time, against which neither the pharmacist nor the physician can battle successfully.

THE DISPENSARY WAR.

In nearly all of the large cities the evils of free dispensaries are recognized, and the great question is to know what to do, how to abandon them and how to end their pauperizing influences. In the city of New York two parties are gathered in battle array. One would like to restrict the present free practice in dispensaries and stop the organization of new ones: the other would enlarge the scope of this work, and permit new places to give free treatment. The college teachers and post-graduate schools are very active to keep up the dispensaries, and the general practitioner realizes their danger to himself and the community. The issue is to be settled by a bill prohibiting dispensaries except under certain general restrictions, now pending at Albany. At this distance it is difficult to understand how any defenders of the present dispensary system can make a reasonable plea for their continuance on their existing basis. The profession have fallen into a low commercial level of giving gratuitous services, at all times and places, and have lowered themselves and the recipients of their charities. No other profession has pursued such foolish ways of work for the community, and as a result there is suffering. The blatant quack comes into a community and is paid for his pretentions. The poor always have money to reward him, but the well trained physicians must give their knowledge and skill for charity. The war should be to revolutionize these senseless delusions and not to perpetuate what is so clearly a wrong. We all unite in calling for a higher grade of medical preparation, and why should there not be an equal union of sentiment in raising the work of the profession to at least a common sense basis of reciprocation and dignified recognition of the value of such services. It is to be hoped that the good sense of the metropolitan physicians will prevail over the narrow policy of continuing an abuse fatal to all that is just and equitable.

CORRESPONDENCE.

Dr. McLean's "Personal Observations in Pulmonary Phthisis."

DENVER, COLO., Feb. 12, 1898.

To the Editor:—I have just finished reading this excellent paper in the February 5 issue of the JOURNAL and I feel like congratulating the author on writing the best article that has appeared for some time on the *prevention* and treatment of consumption. It is *prevention* more than *cure*, because once the conditions of imperfect aeration of the lung apices and the peripheral or terminal laxity of pulmonary blood vessels exist, which constitute the *gist* of this unanswerable argument, and the preventive warfare of the individual must be constant thereafter in order that health may be maintained. We seem (only *seem* in any case) to neglect these preventive means in treating and writing of the serious and advanced lesions which predominate in the class of tubercular cases which come under observation in this sanitorium State. It gives me pleasure to endorse these measures which are preventive. They are applicable alike everywhere, but especially in low damp climates where the dangers are greatest. Prevention antedates and then goes along with treatment, of which it is the major part any way. This idea seems to emphasize the importance of Dr. McLean's earliest "diagnostic symptom," or the "gravitation

cough," as he calls it. His idea is unique and its explanation plausible with regard to the early hacking cough or clearing of the throat on retiring at night. It may be the first sign-board on the road to phthisis and therefore a good warning for the rest of us to review our own experience in recognition of it. To take an N. B. of so early a symptom is to be forewarned of the trouble to come. It beats the bacillus of tubercle as to time, for all that we now know, and fixes it as an after episode of an already established condition.

The treatment indicated is in confirmation of all we have been preaching for these past twenty-five years in favor of exercise and high altitude climate. Especially is it gratifying to me to see such a confirmation of the need and such a proof of the utility of the "In- and Exhaler," advanced by one who had probably never seen this little pocket device (descriptions of which will be sent to any one applying to the Denver Surgical Instrument Co.). I infer this unfamiliarity with the In- and Exhaler because in the claim advanced for "mechanical expansion" of the lung periphery and bronchi, as a possible substitute for living "at an altitude that gives immunity against phthisis." McLean says: "Among the various ingenious methods which have been devised I could find none that were free from objection, as they almost invariably increase the heart's action, which opposes rather than helps the purpose of their use." The ease with which this "mechanical expansion" can be accomplished *at will* by the total of the one to two hours in each day's interrupted use of this In- and Exhaler, is apparent to even a lay observer. It is evident, too, that this is without any undue disturbance of the heart's action whatever, because of the *adjustibility* of the instrument's two valves. Special reference is made to the *exit valve* because it is only during *expiration* (not with *inspiration* as in faulty methods usually employed) that this "mechanical expansion" can be obtained. The most delicate bedridden invalid can lie near a window and breathe in, through a tube attached to this inhaler and extending out doors, the cold lung-expanding air, medicated to suit with mentholated, formalined, eucalyptized, etc., vapor, and according to his or her strength compel its entrance into the finer tubes and vessels of the lungs. The heart meantime is only helped in its action, for the limit of the instrument's use is suggested to be the reddening of the face, *i. e.*, the congestion of the body's periphery by the driving outward of the blood from the impeded and paralyzed pulmonary vessels. Dr. McLean's endorsement of the pneumatic cabinet, and then his criticisms of its impracticability and cost furnish an excellent recommendation for this convenient little pocket device, easily made adjustable to every one's needs.

I may attempt to answer the question propounded, where the author instances Reynard's experiment proving that a rabbit confined for a month in an atmosphere reduced in pressure to the equivalent of that at 6000 feet elevation, developed the same blood changes as in "rabbits transferred from sea level to a climate at 6000 feet elevation," namely, "Would the same changes in the blood have been produced in an animal breathing the same rarefied atmosphere of 6000 feet with the density of atmosphere pressing upon the external surface of the body as exists at the sea level?" That is, was the improvement due to the rarefied air alone which the animal breathed, or was it due to this combination with the diminished air pressure upon the surface, or was it due to the decreased pressure on the external surface alone? I should say that you can not disassociate the dual effect in explaining the total benefit invalids receive in resorting to a high altitude. On the one hand you have the increased pressure (Dr. McLean's "mechanical expansion") due to the positive necessity to breathe a fifth more air to get the same amount of oxygen at a mile above the sea; and on the other hand you have the *suction* of the blood from the thorax and closed areas toward the periphery.

This latter is similarly explained, but the *reverse* of the congestion of the spinal cord and proportionately of all partially closed areas (as in the coverings of the brain) manifest in the caseous disease. This is the effect produced in workmen subjected to toiling in an atmosphere of greatly reduced pressure.

But the internal increased pulmonary air-pressure and the external diminished pressure of a high altitude atmosphere may be variously substituted for and varied in their proportionate effects by mechanical devices and systems of exercise. For instance, in the pneumatic cabinet, a person breathing the outside air, with the air around him reduced, has the proportionate drawing of the blood into his peripheral vessels correspondingly exaggerated according to the diminished pressure reached in the cabinet. On the other hand, exercise can be chosen, as Dr. McLean has so well shown, which will increase the "mechanical expansion" of the peripheral air cells and tubes of the lungs, with no dependence at all upon the suction effect mentioned of a circumambient atmosphere reduced in pressure. The inhaler referred to, if faithfully used, can do this. In fact, I believe the proportionate manifestation of tuberculosis in the lungs, as compared with other organs, would be greatly lessened and a good percentage of consumption be prevented if there existed the determination and will power, especially among the young, to persistently practice mechanical expansion by this, or possibly by some equivalent method. To use the words of Dr. McLean, "the price of health is vigilance and effort. If the phthisical patient would live and be healthy he must work for it, and in the way I have indicated or by some similar method, or he will miserably perish, notwithstanding he may swallow all the drugs in the dispensatory and be injected with all the serums and specifics, so-called, which are now obtainable. The expansion method of treatment is *nature's method* and is helpful in every stage of the disease, except where there is active hemoptysis from organic changes."

Let me urge the thoughtful perusal of Dr. McLean's paper.

CHARLES DENISON, M.D.

Prescribing Ready-made Compounds.

CHICAGO, Feb. 9, 1898.

To the Editor:—In the prevention and successful treatment of disease our science culminates and becomes an art. Therapeutics, the philosophic adaptation of remedial agents to the correction of pathologic conditions, the cure of disease in the human organism and its restoration to that physiologic equipoise we dominate health, is the full consummation of science and art. No one unfamiliar with physiology and pathology, pharmaco-dynamics and therapeutics can prescribe for any disease in a scientific manner. Therapeutics must be regarded as first among the principles of scientific medicine by learned and cultured members of our profession. The adaptation of means to the accomplishment of wisely purposed ends in the practice of medicine and surgery, implies much as to acquirements and knowledge? Every case is stamped with an individuality by which it is differentiated from all others. We find special perversions of functions and pathologic tendencies having relation to the assemblage of abnormities presented by the case. The educated physician addresses himself to the task of securing a mastery of every factor and of meeting every indication essential to final victory.

When men of rare endowments and an encyclopedic fund of knowledge recognize the necessity for clear definite information and long investigation before authorizing the use of remedies in many cases, how can we reconcile the conduct of many with the obligations imposed, who simply order some nostrum, ready-made formula or trademark preparation? How can the manufacturing man even though he be a pharmacist, prepare such a combination of drugs as to adapt them to the cure of the hundreds of diseases met with each year? Drugs and

chemicals are modified in their action upon the human organism by age, sex, habits, idiosyncracies, temperament, constitutional taints (acquired or hereditary), avocation, climate, condition of the system at the time of administration, etc. Men who use these ready-made cure-alls forego the exercise of those powers of ratiocination in the adaptation of remedies to each individual case, according to its peculiarities and needs, which ever and always distinguish the learned from the ignorant. They insult the educated pharmacist by presuming that he could not prepare any combination required by the formula they wrote; and they only too often make clear the fact that they are incapable of originating such a combination of ingredients as the complexities of the case demand.

Prof. Geo. B. Wood, the scholar, scientist and author, in his great work published in 1860, entitled, "Therapeutics and Pharmacology," uses this language touching ready-made formulæ:

"It leads to an indolent reliance on mere authority by sparing the trouble of thought, and greatly conduces to an empiric and routine practice, neither creditable to the physician nor profitable to the patient. The author has preferably sought to give principles, by which the physician himself may construct formulæ suitable to each special case. He has endeavored to point out in reference to each medicine the peculiar circumstances which render its use appropriate, and the modification in doses it must undergo to adapt it to the varying circumstances of different cases, or the same case at different times. He has also called attention to the medicines with which in each special case it may be appropriately combined to aid or qualify its action. With this knowledge and that of the pathologic conditions to be corrected, the educated physician will be qualified to form much more appropriate associations or combinations of medicines, and to regulate much more correctly the proportions of the several ingredients in correspondence with the indications than any formulary can possibly do for him; nor can any medical man be considered educated or duly instructed until he is capable of constructing such formulæ for his own use and purposes."

The educated physician and educated pharmacist have delicately allied duties in their relations with the public, and no educated physician should allow his prescriptions to go to a mere trader in drugs; nor should a pharmacist ever commend an illiterate, uneducated physician. We should stand in an honorably helpful relation to each other and strive to excel in the breadth of our attainments, the excellence of our work.

W. T. AKINS, M.D.

Appendicitis: Comments Upon Dr. Haughton's Letter.

NEW YORK, Feb. 15, 1898.

To the Editor:—In the JOURNAL for Feb. 12, 1898, I find a reply from Dr. Haughton to Dr. Carstens which seems to fail to comprehend the subject of appendicitis in just the proper way. Perhaps there is no subject in medicine more thoroughly understood than that of appendicitis. The pathology, etiology, symptomatology and anatomy are all so completely recorded by our authorities that it is only the men who are too busy to read the works of authorities who imagine that there is still much room for discussion upon the subject. It has been demonstrated and recorded that the operative death-rate in acute and in chronic appendicitis without abscess, is only a fraction of 1 per cent. at the hands of several of our American surgeons.

It has been demonstrated and recorded that the men who represent diagnostic acumen of the highest order are powerless to make a prognosis about the outcome of any given case of appendicitis. It has been demonstrated and recorded that so large a proportion of "cured" appendicitis patients carry concretions and mucous inclusions and tubercular foci, and entozoa, and chronic abscesses that the eventual death-rate in appendicitis is not likely to show less than 25 per cent. death-rate under any form of medical treatment.

Curiously enough the reports of long lists of cures under medical treatment have seemed to be rather dishonest in their nature, and they bear the ear marks of a spirit of controversy rather than of an interest in pure science. A medical report on appendicitis cases should have several clearly defined features. A statement about the length of time of observation, of number of deaths, of number of occurrences of acute symptoms, of interval palpation findings, and of the interval condition of general health of each and every patient. I am acquainted with several physicians whose love for truth was so much greater than their love for controversy that they began to get statistics of this sort, but unfortunately for statistics they soon decided that their appendicitis patients must be operated upon promptly.

Apparently every physician who publishes long lists of appendicitis cases cured by medical treatment knows in his heart that he is doing wrong. When he congratulates a patient on getting well without operation he knows in his heart that that patient is very likely indeed to be carrying at least a mucous inclusion, and that he is not a cured patient. It is almost incomprehensible that men whose duty it is to devote their lives to the relief of suffering should be so fond of controversy that they can not be honest to themselves, or to their sacred profession, or to the people whose precious lives are entrusted to their care. Dr. Haughton has quoted one writer who published a list of appendicitis cases cured by medical treatment. I have challenged this writer's report, and although he has privately stated that he will not look up his cases, and that he will not tell the profession what has become of them, I shall keep trying in various ways to get him to do it, and I hope to get a general report in the interest of science before the matter is allowed to rest. I may have to bear a great deal of personal abuse and may be put to much trouble, but it is all for the sake of humanity, and that makes one's labors seem light. Clouds are coming over many a happy home in this fair land on this very day because the family physician who conscientiously tries to do the very best thing for his appendicitis patients is misled by controversial reports from physicians who do not realize that their irresponsible influence is carrying death in its trail.

ROBERT T. MORRIS, M.D.

Appendicitis.

MARIETTA, OHIO, Feb. 15, 1898.

To the Editor:—I have been interested for some time past to learn how it happens that some doctors have so many cases of appendicitis, upon which they find it necessary to operate. Is it not a fact that most of the so-called cases of appendicitis are primarily impaction of the cecum and colon, which by proper medication can be relieved and avoid the operation? These thoughts come to my mind from the fact that I have been in a very active general practice, medical and surgical, for the past fifty-four years, and have never had but one case that needed operation, and that one in my early service, and far advanced. I lanced it and he soon made a good recovery. I think that with those in which I have been called in consultation, I have treated more than one hundred cases without the loss of one, simply by medication. I have no doubt but the vermiform appendix plays its role in all such cases and was placed there for some useful purpose, although we may not *fully* understand it. I shall in the future as in the past, try medication before operation.

B. F. HART, M.D.

Foreign vs. American Schools.

WASHINGTON, D. C., Feb. 14, 1898.

To the Editor:—It is gratifying to note in the columns of the JOURNAL that several correspondents have had the courage

to speak out their convictions as to the supposed advantages of European medical education when compared with those of our own country.

Permit me to say that my personal experience warrants the full corroboration of the statements made by your correspondents. Familiarity with the teaching of the medical schools in our Eastern cities, and frequent trips across the Atlantic the last twenty years, during which I studied at the principal European medical centers, have afforded ample opportunity to make comparison which, without any spread-eagleism, I am forced to say is greatly in favor of my native land. Just why any true American should go into ecstacies over anything German has always been a puzzle to me. While there are many individual Germans whom I respect and admire, candor compels me to say that after much travel around the globe Germans, as a class, are the rudest people I have ever met, and beyond beer and music I found nothing to admire in a country where most things partake of the cheapness and mediocrity of the imported articles labeled *in Deutschland gemacht*. During my stay in that garish but most dull and unattractive city, Berlin, shortly after the Franco-Prussian war, I was constantly taken for *ein Britisher*, and on witnessing an operation it was a common thing to be told that "they do it better in your country," little knowing that I was from the land of the tabooed pig and apple.

Though devoting a year to the study of German medical nomenclature alone before going abroad, I found it impossible to seize more than a general sense of the lectures attended. The study of German, in view of the enormous growth and great spread of English, is a waste of time only equaled by the *German medical journal disease*, or the absurdity of expecting to find in that country what exists in greater perfection in New York, for instance. Indeed, medical education has so advanced in this country of late that it is safe to predict that before many years Europeans will come here for study.

Of course I do not wish to imply that nothing is to be gained by going abroad. If the medical man really wants to learn he will find London, Paris and Rome the best places, and if interested in neurology, psychiatry or criminal anthropology, he will find Italians in the foremost rank. Every medical man who can afford it should visit Europe, not so much with the expectation of professional benefit as for that accruing from attrition with other minds, the wiping away of numerous cobwebs of prejudice, and the still stronger reason that he will return to his native land a better American.

IRVING C. ROSSE, M.D., F.R.G.S.

Leprosy in Norway and America.

BERGEN, NORWAY, Feb. 1, 1898.

To the Editor:—Allow me to make some corrections of Dr. Caldwell's article in the number of December 18, which you have sent me. Dr. Caldwell says that in our hospitals for the confinement and treatment of lepers were "domiciled over one thousand unfortunates afflicted with that terrible disease." From where or from whom Dr. Caldwell has obtained this information I can not imagine, for we had last summer not more than about three hundred and fifty lepers in our institutions. Later on Dr. Caldwell says that "I, in my visit to the United States found three cases in the hospitals in Chicago and twice as many in New York, as well as encountered several cases of true leprosy upon the streets of each city, all of whom were treated for lupus, syphilis or some other form of skin disease." I regret if any of my Norwegian colleagues has given such information to Dr. Caldwell. The truth is that in Minnesota I found one case and in the City Hospital in Chicago one case, not of leprosy treated for syphilis, but of syphilis diagnosed as leprosy. Now this is not to be wondered at, when the doctors have no acquaintance with leprosy. You will allow me to tell the incident in the City Hospital in Chicago, where I went accompanied by my colleague, Dr. Sandberg of Chicago. A young American doctor led us to the patient, who was a Dane. I saw at once that the man had no leprosy and asked him in Danish, "When did you get your chancre?" "Seven or eight months ago," replied the man. The young American doctor, who understood the word chancre, I suppose, said: "Oh, sir, he does not understand that." "Certainly he understands," said I. "He had his chancre eight months ago." "Oh, dear me," said the young man.

In the streets of the cities I never saw a leper, and I account for disease not spreading from the leprous immigrants of Wisconsin, Minnesota and Iowa by the cleanliness of the people everywhere. I said then and I say still: The first thing a Norwegian peasant, who is not cleanly, learns in America is to wash himself, and that does great credit to American customs. While writing you I will take the liberty to say some words of Dr. Ashmead's letter in the same number. I will not take up a discussion of the Leper Conference in Berlin. I will only say that I still never have seen an instance of "melancholia of leprosy." This affection is a discovery of Dr. Ashmead, but I regret to say that neither I nor anyone else in Norway has any idea of the existence of such an affection. One may meet with lepers who are melancholic, of course, but generally our lepers are of the same mental disposition as other people, and remarkably seldom we see a depression of their good humor, in spite of the disease; the reason is that the brain is never affected in leprosy, and one sees often enough people keep their good spirits in spite of even more fearful diseases than leprosy. I am, sir, yours respectfully, G. A. HANSEN, M.D.

The Alleged Castration of Squirrels.

HUDSON, OHIO, Feb. 8, 1898.

To the Editor:—In a recent JOURNAL Dr. Taylor has a communication with this heading "Do adult squirrels castrate each other?" A better heading would be "Do any squirrels castrate each other?"

In Vol. iii, page 646 of Owen's "Anatomy of Vertebrates" you will find a description of the male organs of the rodentia. Among other things he says: "The testes undergo a periodical increase of size and *change of position*, passing from the abdomen into a sessile scrotum and being again retracted, after the rut, within the abdomen." This change of position involving the disappearance of these glands, which are very conspicuous during the rutting season, has given origin to the belief that the males were often castrated. The Doctor notes a very significant fact that this supposed castration by another squirrel leaves no visible scar. If a surgeon will perform the operation with his sharpest knife he will leave a scar that will bear witness to his work. Any one who will carefully dissect one of these supposed emasculated males will find the missing testes within the abdomen so reduced in size as to be easily overlooked. M. C. READ, M.D.

Physicians Should be Compensated.

PHILADELPHIA, PA., Feb. 18, 1898.

To the Editor:—The editorial in the number of your JOURNAL for February 12 upon the subject of "notification of contagious diseases" is very timely. I have never been able to understand why physicians should be forced to make notification of contagious disease without compensation, as is commonly done in this country. In England physicians are paid two shillings and six pence each time they give notice of a case of contagious disease in their private practice, and one shilling if the case occurs in a public institution. This is provided by law. It seems contrary to fundamental justice, if not to law, that the medical profession should be made to perform labor without compensation, and I have often wondered whether the courts would not sustain a resistance of it.

Respectfully yours, ARTHUR V. MEIGS, M.D.

Advertising in Medical Journals.

SOUTH MCALESTER, I. T., Feb. 4, 1898.

To the Editor:—In answer to an advertisement in the *Tri-State Medical Journal* for December, 1897, I received the following literature:

DOCTOR—DO YOU CURE YOUR GOITER PATIENTS?

I cure all of mine and receive from $25 to $50 from each of them. The cost of treating a case will not exceed $1. Inclose a 2 cent stamp for particulars.—M.D., Lock Box —, Bloomington, Ill.

When respectable (?) medical journals admit such people to their advertising colums it is certainly time to cry halt. We wonder at the imbecility of the laity when they employ quacks, but what shall we say of the members of the profession who are equally guilty, as proven by the enclosed testimonial?

Such journals are more than "particeps criminis," they are the instigators. Some means should be devised to compel these people to either sail under their true colors or return to the ranks of professionalism. Fraternally,

C. A. SHAW, M.D.

ASSOCIATION NEWS.

The Senn Medal.—Those members of the AMERICAN MEDICAL ASSOCIATION intending to compete for the medal offered by Dr. Senn for the best essay on some surgical subject, are requested to forward the type-written copies of contributions before March 1, 1898. Address,

J. MCFADDEN GASTON, M.D., Chairman, Atlanta, Ga.

Section on Materia Medica and Therapeutics.—The following papers and discussions have been promised for the meeting at Denver, Colo., June 7–10, 1898:

"Yellow Fever: Its Etiology and Treatment." Discussion by Surgeon-General George M. Sternberg, Washington, D. C.; Prof. John Guitéras, M.D., Philadelphia; Drs. Sollace Mitchell, Jacksonville, Fla.; T. S. Scales, Mobile, Ala.; G. B. Thornton, Memphis, Tenn.; H. M. Bracken, Minneapolis, Minn.; P. E. Archinard, New Orleans, La.

"Aims of Modern Treatment of Tuberculosis." By Prof. Edwin Klebs, M.D., Chicago. Discussion by Drs. Charles Denison, Denver, Colo., and C. H. Whitman, Los Angeles, Cal.

"Serum Therapy of Tuberculosis." By Prof. S. O. L. Potter, San Francisco, Cal. Discussion by Prof. James M. Anders, M.D., Philadelphia.

"The Therapeutics of Pulmonary Phthisis." By Paul Paquin, M.D., St. Louis, Mo.

"Tuberculin as a Diagnostic and Curative Agent, with Report of 250 Tubercular Cases Treated." By C. H. Whitman, M.D., Los Angeles, Cal.

"The Practical Value of Artificial Serum in Medical Cases." By P. C. Remondino, M.D., San Diego, Cal.

"The Use of Remedies in Diseases of the Heart and Blood vessels." By T. Lauder Brunton, M.D., D.Sc., F.R.S., London, England.

"The Mescal Button." By Prof. D. W. Prentiss, M.D., Washington, D. C.

"The Modern Intestinal Antiseptics and Astringents." By William Frankhauser, M.D., New York.

"To What Extent is Typhoid Fever favorably Modified in its Course, Duration, Termination or Sequelæ by the Administration of Drugs?" By Frank Woodbury, M.D., Philadelphia, Pa.

"Strychnin." By J. N. Upshur, M.D., Richmond, Va.

"Methods of Teaching Materia Medica and Therapeutics." By Prof. G. H. Rohé, M.D., Baltimore.

"The Study of Materia Medica and Therapeutics." By H. M. Bracken, M.D., Minneapolis, Minn.

"The Great Therapeutic Importance of a Rational Adaptation of Cathartic Remedies to the Physiologic Functions of the Gastro-intestinal System." By E. D. McDaniels, M.D., LL.D., Mobile, Ala.

"Why the Pharmacopeial Preparations Should be Prescribed and Used by the Profession." By Leon L. Solomon, M.D., Louisville, Ky.

"The Use of Electricity by the General Practitioner." By Caleb Brown, M.D., Sac City, Iowa.

The following have also promised papers, subjects to be announced very soon, together with the day assigned for each discussion and paper:

Drs. J. E. Atkinson, Baltimore; Henry Beates, Philadelphia; T. M. Balliet, Philadelphia; George F. Butler, Chicago; Dudley W. Buxton, London, Eng.; J. Solis-Cohen, Philadelphia; N. S. Davis, Jr., Chicago; P. J. Farnsworth, Clinton, Iowa; J. E. Moses, Kansas City; Prof. Joseph Remington, Philadelphia; Drs. L. E. Sayre, Lawrence, Kan.; H. V. Sweringen, Fort Wayne; E. L. Stephens, Fort Worth.

The Chairman will be pleased to receive and place upon the program subjects for discussion and papers.

JOHN V. SHOEMAKER, M.D., Chairman.
1519 Walnut Street, Philadelphia, Pa.

SOCIETY NEWS.

New Hampshire Medical Society.—The adjournment of the Society to May 30 and 31, 1898, necessitates a change of date, as May 30 is a holiday (Memorial Day); therefore, the annual meeting will be held in Concord, May 26 and 27, 1898.

Atlantic City Medical Society.—The following officers of the Atlantic County Medical Society was elected at a recent meeting: President, W. Blair Stewart, Atlantic City; vice-president, H. C. James, May's Landing; secretary and treasurer, Walter Reynolds, Atlantic City; reporter, W. C. Darnall, Atlantic City; permanent delegate to State Society, Theophilus Boysen, Egg Harbor City.

Medical Society of the State of Pennsylvania.—The next meeting of this society, May 17, 18 and 19, at Lancaster, will be the fiftieth anniversary of the Society's existence. The first day will be devoted to the "Practice of Medicine;" the second to "Surgery;" the third to "Obstetrics." The evening of the second day, will be devoted to an illustrated lecture, by Dr. J. T. Rothrock, Commissioner of Forestry of Pennsylvania, on the "Sanitary Relations of Our Highlands to the State."

The American Pediatric Society is making a collective investigation of infantile scurvy as occurring in North America, and earnestly requests the co-operation of physicians, through their sending of reports of cases, whether these have already been published or not. No case will be used in such a way as to interfere with its subsequent publication by the observer. Blanks containing questions to be filled out will be furnished on application to any one of the committee. A final printed report of the investigation will be sent to those furnishing cases. Signed by the following Committee:

J. P. Crozer Griffith, Chairman, 123 S. Eighteenth Street, Philadelphia; William D. Booker, 853 Park Avenue, Baltimore; Charles G. Jennings, 457 Jefferson Avenue, Detroit; Augustus Caille, 753 Madison Avenue, New York City; J. Lovett Morse, 317 Marlboro Street, Boston.

American Academy of Medicine.—Announcement and preliminary program of the twenty-third annual meeting to be held at Denver, Colorado, on Saturday, June 4, and Monday, June 6, 1898. The meeting will be held in the Brown Palace Hotel, which has been made the headquarters of the Academy, the management having given special rates for the occasion. It is suggested that rooms be secured early, especially if it is intended to remain to the meeting of the AMERICAN MEDICAL ASSOCIATION.

It is planned to hold three sessions on Saturday beginning at 10 A.M., at 3 and 8 P.M. Another session will be held on Monday, at 8 A.M., at which time it is hoped all the business can be completed, affording the Fellows an opportunity to attend the meetings either of the Association of American Medical Colleges or the National Confederation of State Medical Examining and Licensing Boards, which meet on this day. This plan contemplates holding the reunion session on Monday evening.

The following papers have been promised. Several others have written expressing a desire to prepare a paper, but as a definite promise has not been given, it is thought wisest not to

publish their names. The arrangement is alphabetical, and not in the order in which the papers are to be read:

1. Dr. L. Duncan Bulkley of New York, "The President's Address."
2. Dr. Charles Denison of Denver, "The Advantage of Physical Education as a Prevention of Disease."
3. Dr. Thomas C. Ely of Philadelphia, "The Importance of Training the Special Senses in the Education of Children."
4. Dr. J. Edgar Fretz of Easton, Pa., "Some Criticisms on the Questions of the Medical Examining Boards by a Recent Graduate."
5. Dr. G. G. Groff of Bucknell University, Lewisburg, Pa., "The Necessity of Medical Supervision in School Life."
6. Dr. Bayard Holmes of Chicago, "Growth and Strength and its Relation to Education and Medicine."
7. Dr. Henry M. Hurd of Baltimore, "How Much to Educate the Growing Brain."
8. Dr. Woods Hutchinson of Buffalo, "The Muscular Basis of Education."
9. Dr. Edward Jackson of Philadelphia, "The Care of the Eyes During School Life."
10. Dr. Elmer Lee of New York, "The Interdependence of Healthy Bodies and Healthy Brains."
11. Dr. J. C. Lichty of Clifton Springs, N. Y., "The Modern Sanitarium and its Relation to the General Medical Profession."
12. Dr. Charles McIntire of Easton, Pa., "Snags in the Course of the Medical Examining Boards."
13. Dr. Rupert Norton of Washington, D. C., "The Child's Brain as Illustrated by Recent Neurologic Studies."
14. Dr. F. T. Rogers of Providence, R. I., "The Ethical Advertiser."
15. Dr. J. T. Searcy of Tuscaloosa, Ala., "How Education Fails—Physiologically Considered."
16. Dr. Charles G. Stockton of Buffalo, "The Kindergarten."
17. Dr. James L. Taylor of Wheelersburg, Ohio, "The Amount of Work a Growing Brain Ought to Undertake."
18. Dr. Casey A. Wood of Chicogo, "Kindergarten and Primary Grade Work in the Public Schools and its Influence upon the Eyesight."

There is room for the presentation of a few more papers. Fellows desiring to contribute are requested to send the titles to the Secretary promptly.

Many of these papers are planned for the discussion "The Physiologic Side of the Education of Youth," the special theme suggested for the meeting.

The Camden County Medical Society has sent the following letter to Hon. Herbert W. Johnson, Senator; Hons. William J. Bradley, John H. McMurray and Edgar J. Coles, Members of Assembly:

CAMDEN, N. J., Feb. 8, 1898.

Gentlemen:—In compliance with the instructions of the Camden County Medical Society, at a meeting held this day, the undersigned have the honor to call your attention to and to solicit your interest in Senate Bill No. 80, entitled "An Act to Establish a Village of Epileptics," introduced by Senator Daly and referred to the Committee on Miscellaneous Business.

The subject of segregating epileptics for industrial education and medical treatment was brought to the attention of the legislature of this State in 1896, and a bill was passed providing for the establishment of a colony for that purpose which, however, met with the disapproval of the Governor.

At the annual meeting of the Medical Society of New Jersey in 1897, the necessity for this measure furnished the subject of an address by the president, Dr. Thomas J. Smith of Bridgeton and a committee was appointed to present the matter to the legislature.

In emphasizing the importance of this measure, Dr. Smith stated that there were probably from 2000 to 3000 epileptics in this State, 500 of whom were doubtless confined in almshouses, asylums or in private families. These cases impose a heavy burden on the State and the family, and some of them are not infrequently a menace to the comfort and safety of society. Neither the hospital nor the asylum affords the proper conditions for their treatment, since an institution, to meet their highest needs, should possess the facilities for mental improvement, industrial education and physical development, as well as the advantages for medical treatment. These opportunities are afforded in the greatest degree by the colony system, and, where this system has been introduced, the percentage of cures has been materially increased.

The segregation of epileptics into colonies originated with the French in 1848, as stated by Dr. Smith, and the success of the system has led to its establishment in England, Germany and other European countries. In this country, colonies have been or are now being established in Massachusetts, New York, Pennsylvania, Maryland, Ohio, Illinois, Iowa, Wisconsin, Minnesota and California.

It is an axiom in political economy that the prosperity of the State, rests, in no small degree, upon the physical welfare of her citizens; and in this era of unrivaled medical progress, New Jersey should not fall behind her sister States in the intelligent and beneficent care of her people.

With the hope that this measure may meet with your favorable consideration and active support, we have the honor to convey to you this Society's best esteem and to express at the same time the assurance of our high regard.

Very respectfully,

[Signed] E. L. B. GODFREY, M.D., WILLIAM H. ISZARD, M.D., } Committee.

PUBLIC HEALTH.

Personal.—Dr. William H. Welch of Johns Hopkins Hospital, has reconsidered his declination of membership in the Maryland State Board of Health, and accepted the appointment.

Compulsory Antitoxin.—According to the *Semaine Méd.* the Government of Bosnia and Herzegovina has rendered the use of diphtheria antitoxin compulsory, both as a curative and preventive.

The Bubonic Plague Still Prevailing.—The recent invasion of Sinnar by the plague caused a riot by reason of the authorities having attempted isolation. The temporary hospitals were attacked, the quarantine camp set on fire, and the mob were dispersed only after the police had resorted to extreme measures. The reported deaths up to January 31 were forty-three.

Health in San Francisco.—The semi-annual report of the Health Department of the City and County of San Francisco, Cal., gives 3,000 deaths for the period from July 1, 1897, to Dec. 31, 1897. The greatest number of deaths occurred in November, viz., 581, and the least in December, viz., 138. The chief causes were: Phthisis pulmonalis, 427 deaths; heart disease, 385; pneumonia, 237; violence, 202; nephritis, 187; cancer, 179. In 257 cases of diphtheria reported there were 44 deaths and in 53 cases of scarlatina, 2 deaths.

Health in Michigan.—The report for January gives the ten diseases most prevalent during the month, as rheumatism, influenza, neuralgia, bronchitis, tonsillitis, pneumonia, pleuritis, diarrhea, inflammation of the kidney and erysipelas. Consumption was reported at 150 places; diphtheria, 73; measles, 63; scarlet fever, 61; typhoid fever, 57, and whooping cough at 31 places. As compared with the previous month, consumption, diphtheria, scarlet fever and typhoid fever, shows a decrease, while measles increased. Compared with the average for January, in the twelve years, 1886–1897, prevalence of consumption showed a marked decrease and remittent and intermittent fever a large decrease.

Health in Michigan during 1897.—From the report of the Michigan State Board of Health we glean the following: During the year 1897 action was taken on 124 more outbreaks of diphtheria than in 1896, 49 less of scarlet fever, 55 less of typhoid and typhomalarial fever, 332 more of measles, 76 less of whooping cough, 6 less of smallpox and 155 more of consumption. In all, 425 more outbreaks were acted on in 1897 than in 1896, and 66 more in 1896 than in 1895. Only two outbreaks of smallpox were reported during 1897, with but fifteen cases and no deaths.

Progress in Official Vaccination with Calf Lymph in England.—At a meeting of the Redruth (England) Board of Guardians, held in October last, a communication was read from the Local Government Board recommending that sixpence per case extra for vaccinations performed with calf lymph would be a sufficient remuneration for the medical officers. The Board added that the guardians themselves could not supply calf lymph except

in the case of an outbreak of smallpox. It was eventually resolved that sixpence be allowed in each case where calf lymph was used, although one guardian moved that only threepence should be given.

The Louisiana State Board of Health.—A new board has been appointed by Governor Foster to take the place of that which resigned about the first of this year. The membership of this board comprises men well known in the medical and business communities. The board is constituted as follows: Drs. Edmond Souchon, L. F. Reynaud, Luther Sexton, J. J. Castellanos and H. L. Lewis, and Messrs Stanley O. Thomas, J. D. Hill, Charles W. Castles and Jules C. Denis. These officers went on duty about February 1.

The Efficacy of Antitoxin is strikingly apparent in the official public health statistics recently published by the German Government for the years 1885 to 1895, the latter the first year when antitoxin came into general use. The mortality from diphtheria and croup was less by 49.48 per cent. than the average of the preceding years. The morbidity also showed a similar decrease, varying with the locality from 31.50 to 64.75 per cent. less than preceding years. The reports from Norway are still more conclusive. At Geneva also, the children in a large asylum were exposed to contagion and all but two received preventive inoculation. These two promptly succumbed while none of the rest were affected.

Health in New York During 1897.—According to the *Monthly Bulletin* for December, the deaths reported during the year were 117,085, or 3,600 less than in 1896, being the smallest mortality since 1889. This makes the death rate for the year 18.50 per 1,000 population, while that of the two years preceding was 19.00. The death rate of the Maritime District was 18.90; Hudson Valley, 17.75; Adirondack and Northern, 14.50; Mohawk Valley, 16.00; Southern Tier, 14.00; East Central, 16.00; West Central, 14.50; Lake Ontario and Western, 15.25. The mortality has increased in rural parts, decreased in urban. Infant mortality is lower, 32.6 per cent. As to causes, compared with 1896 there were 1,500 less deaths from diarrheal diseases in 1897, 500 less from diphtheria, 600 less from measles, and a moderate increase in those from scarlet fever. The deaths from grippe early in the year were the same for both years, viz., 3,000. Consumption caused 10.8 per cent. of the whole mortality, or 12,638 deaths in 1897 against 13,265 in 1896.

Disinfection Work at New Orleans.—The board of Health of that city has been very diligently engaged in offering disinfection of domiciles and articles of clothing that have been brought within the range of yellow fever infection, during the late epidemic. The following are paragraphs taken from a circular of information that was prepared and published in the daily papers in December: "The board offers to perform the necessary work of disinfection, without charge, and with the least possible inconvenience to householders. The citizens of New Orleans are earnestly requested to second this effort of the board to free the city of any lingering trace of infection. Applications should be made in writing, and will receive attention in the order of their receipt. In view of the great value of thorough aeration as a means of purifying the interior of dwellings, it is respectfully suggested and urged that every opportunity be utilized to admit a copious supply of dry, cold air and plenty of sunshine into houses where sickness has occurred, and to so dispose bedding, clothing, etc., in such houses as to secure the full benefit of this plan of purification."—*N. O. Medical and Surgical Journal*, February.

New York City Board of Health.—That Board having been put upon the defensive regarding its large production and sale of antitoxins and vaccines, it has caused to be prepared a showing, in the first place, of the excellent results that have flowed from its vaccination methods. For example, it is set forth that since 1874, after the passage of a rule by the Board of Education providing that no pupil should be allowed to attend school nor any teacher employed unless vaccinated, not one pupil or teacher was afflicted with smallpox. President Straus also shows that in no other city in the State are vaccine virus and diphtheria antitoxin manufactured in such large quantities. The following table shows the diphtherial death rate since 1892:

Years.	Estimated Population.	Deaths by Diphtheria.	Rate of Mortality.
1892	1,708,124	2,106	1.23
1893	1,758,010	2,558	1.45
1894	1,809,353	2,870	1.59
1895	1,877,195	1,976	1.05
1896	1,934,077	1,763	.91
1897	1,990,562	1,591	.80

In 2450 cases treated with diphtheria anti-toxin by inspectors of the Board in 1895, 1896 and 1897, there were only 363 deaths. The cost of diphtheria antitoxin, as manufactured by the Board of Health, is $1 an ounce. If purchased at drug stores it will cost $12 an ounce. Manufacturing in large quantities made it possible to produce both vaccine virus and antitoxin at the lowest possible cost. Even at the large price charged by druggists it did not always follow that the vaccine and antitoxin sold by them were pure and fresh.

National Quarantine the Only Means to a Satisfactory End.—Some years ago we advocated in the pages of the JOURNAL time and again the prime necessity of active and satisfactory measures being taken by the National Government to secure adequate protection from the invasion of preventible epidemic diseases, urging the need of a National Department of Public Health, properly organized and equipped as being fully justified by the experiences of the past. The matter, however, was relegated to the Marine-Hospital Service, and we quietly rested on our oars, and have waited patiently to see just what we expected, viz: a failure in a very important and vital field, once! yes, twice and three times! With the culmination and decline of the last visitation, we thought the time opportune to again take up our former line of argument, sincerely hoping that our national law-makers would give this subject the consideration it demanded. The last epidemic and the two preceding ones were reasonably slight as compared with former visitations, but even they caused sufficient loss of life and property interests to have justified far more effective measures of precaution. It has been demonstrated that both cholera and yellow fever can be kept out of the United States—if so, somebody is certainly to blame. The Marine-Hospital Service having proven ineffectual, our national law-makers must shoulder the responsibility if they do not provide something better. With both branches of Congress and the Executive head of the government in the hands of one party—and that party one that has ever shown strong leanings to centralism and paternalism, is it not to be hoped that strong and effective measures on the part of the National Government shall at once be set on foot and the means of relief given in accordance with the demands of the times. The ineffectual efforts of the Marine-Hospital Service, the discordant and irregular methods of State, municipal and local authorities should no longer be tolerated. From one end of the land to the other the people have spoken time and again. Will our law-makers heed their voice and outcry of unison, or will they longer dilly-dally with a question far more important than tariff-tinkering, the currency or acquisition of adjacent islands in either the Atlantic or Pacific. The report from Edwards, Miss., by Associated Press dispatches of January 26, that the yellow fever in that locality has not disappeared gives serious apprehension that the disease may survive the winter and appear again in epidemic form with the coming of warm weather. There has been practically no winter along the gulf coast, and as January is nearly spent, it is probable that there will be no weather sufficiently severe to destroy the germs. If yellow fever ap-

pears again on the gulf coast its spread over the entire South can be prevented only with great difficulty, and as much to be dreaded as the disease itself is the faulty and hysterical quarantine that impedes commerce, prevents travel, produces business stagnation and causes many hardships and inconveniences without effectively checking the spread of the disease. The experience of last year gave proof not only of the insufficiency, but of the positive harmfulness of State and local quarantines. Intelligent co-operation between these bodies seems impossible. They are lacking in means, financial and otherwise, to properly grapple with the necessities of the situation, and having no general direction or concert of purpose their efforts are worse than futile. Quarantine is essentially an interstate matter. It must necessarily in some degree effect the regulation of interstate commerce. To be effective there must be general direction and uniform conduct, and that can be given by the National Government only. The continuance of yellow fever on the gulf coast, therefore, with the strong probability that it will again become epidemic in extreme Southern localities with the coming of warm weather, demands the speedy passage of adequate and effective means by Congress. A bill should be passed in time for the Government machinery necessary for an effective quarantine to be organized and put into operation before the beginning of summer. Nashville has no fear of a visitation of yellow fever. The immunity of the table-lands of Middle Tennessee from the spread of the disease has been thoroughly demonstrated, but Nashville has a very near interest in the proper regulation of the quarantine. The trade of the city suffered greatly last fall because of the prevalence of shotgun quarantine throughout the region to the south of us, wherein the representatives of Nashville houses constantly travel. The State of Tennessee has a very strong interest in the establishment of proper quarantine laws, because all of the western portion of the State is subject to the ravages of the disease. The Gulf States are vitally interested in this question, and to every State in the Union by both sympathy and interest, it is a question of paramount importance that should be met in only a practical manner, regardless of old-time traditions of State rights, or party slogan, or a partizan feeling. It is a question that demands the highest order of statesmanship regardless of party success or present or future personal welfare of those to whose solution it is entrusted.—Editorial, *Southern Practitioner*, February.

NECROLOGY.

S. G. Matson, M.D., Viola, Iowa, born in Vermont, March 5, 1808, died in Fayette, Iowa, February 5. His early life was spent in New England, and he was graduated from the Medical Department of the University of Vermont in 1832. In 1845 he removed to Iowa. In 1846 he was a member of the Constitutional Convention which formed the first constitution of the State of Iowa. He was also elected a member of the first general assembly of the State, which met at Iowa City, Nov. 30, 1846, and in extra session, Jan. 3, 1848. Failing by one vote of being elected speaker of the house, he became chairman of the committee on schools and took a leading part in enacting the first school laws of the State. He also prepared and introduced the bill locating the State University at Iowa City, and was afterward a member of its first board of trustees. In politics he was originally a "Jefferson democrat," but united with the republican party at its organization and voted for John C. Fremont for president in 1856. He continued an ardent republican, casting his last presidential vote for Wm. McKinley in 1896. In appreciation of his services rendered the State, by request, a life-size oil painting of Dr. Matson was secured and placed in the Historical Department of the Capitol, at Des Moines.

John Cronyn, M.D., Buffalo, N. Y., died February 11, aged 73 years. Born in Ireland, he located in Toronto, Can., in 1837, and later entered the University of Toronto. In 1850 he passed his medical examinations but did not take the degree owing to the test of oath which required graduates to subscribe to the thirty-nine articles. Being a Roman Catholic he refused to do this and was obliged to go before the Provincial Licensing Board, which admitted him to practice. A few years later the Canadian Government removed all sectarian restrictions and he obtained his degree of M.D. His thesis received the Chancellor's prize. In 1859 he moved to Buffalo. In 1883 he was largely instrumental in the establishment of the Medical Department in Niagara University. He was soon appointed to the chair of professor of principles and practice of medicine, and later made president of the college faculty. He held this position until his death. In 1888 Niagara University conferred on him the degree of Ph.D. and in 1893 that of LL.D. For several years Dr. Cronyn was a member of the board of directors of the Buffalo State Hospital, and was once president of the board. During the last twenty years he has been president of the New York State Medical Society and at different times president of the Erie County Medical Society. He was an honorary member of the Ontario Medical Association.

John G. Truax, M.D., Rush Medical College, Chicago, 1871, died at his home in New York City February 16. He was born in Durhamville, N. Y., March 5, 1848, and for two years after graduation served in the Chicago hospitals, and then went to the Peninsula on Lake Superior, where he remained among the iron mines until 1876, when he went to New York, eventually to fill many responsible positions in social and club life. A recognized authority in pottery, he was also the possessor of the works of many foreign and American artists, wrote considerably for the New York State Medical Association, and participated somewhat in the debates of the New York County Medical Association, before which he first introduced his alcoholic test for urine. His predilections, however, were for hospital work and dealings with large bodies of the community; hence he was a pension examining surgeon, a visiting physician to the Harlem Hospital, a member of the Board of Governors of the New York Juvenile Asylum and chairman of the Board of Trustees of the Mott Memorial Library.

Arnold Stub, M.D., Geneva Med. Coll. N.Y., 1872, died in Brooklyn, N.Y., during the second week in February. Born in Ebling, Prussia, in 1832, he came to this country when 24 years old. He entered the volunteer army during the civil war, served as medical purveyor under General Hancock, and was mustered out as surgeon of the 90th N.Y. Vol. Inf. on Jan 3, 1865, after which date he became a resident of Brooklyn.

Charles J. Bickham, M.D., Tulane University Medical Department, New Orleans, 1856, died at his home in New Orleans on February 14, aged 69 years. He filled many offices of trust in the line of his profession, and was prominent in the late yellow fever epidemic as an expert authority.

Dr. Selwyn Clark, M.D., Rockford, Ill., died February 12, aged 59 years. He was a graduate of Beloit and the College of Physicians and Surgeons, New York, 1865. He served as a surgeon in the 25th regiment, Illinois infantry. His health was shattered during two months' imprisonment in Libby prison. For many years he was a trustee of Rockford Seminary.

William T. Elmore, M.D., Dartmouth, 1888, died from pneumonia in New York City, February 12, aged 44 years. His birthplace was Montgomery, Ala. He went to New York fifteen years ago.

Sumner Laughton, M.D., Bangor, Maine, died February 8, aged 86 years. He was a graduate in medicine from Bowdoin in 1834; was later president of the State Medical Society, an honorary fellow of the Maine Academy of Medicine and a member of the American Medical Association. At the time of his death he was chairman of the Maine Board of Registration.

Stephen W. Van Duyn, M.D., New York University Medical College, 1865, died in Plainfield, N. J., January 25, aged 61 years. He was a war veteran, having been mustered out of the United States service April 13, 1865, as assistant surgeon of the First Regiment New Jersey Cavalry. From 1866 to 1869 he was an assistant surgeon U. S. A., and subsequently was many years in practice in Newark, N. J.

MISCELLANY.

An Anonymous Benefactor.—A benevolent Hamburger, who withholds his name, has bequeathed 250,000 marks for the erection of a hospital with rooms for one hundred tuberculous patients, who are to get bedding, board and treatment for twenty-five cents per day.

Editorship of the "British Medical Journal."—The vacancy in the editorial chair made by the death of Mr. Ernest Hart, has been filled by the promotion of Dr. Dawson Williams, the assistant editor, to the editorship. Mr. C. Louis Taylor, the sub-editor, succeeds Dr. Williams as assistant editor.

Purulent Periperitonitis.—By this name Franke describes a generalized suppuration spreading extraperitoneally, between the peritoneum and fasciæ, all around the abdomen, and reports two cases, one of which recovered and a necropsy was impossible in the other. An abstract in the *Cbl. f. Chir.* rather doubts the correctness of the diagnosis.—*Mitth. a. d. Grenzb. der Med. u. Chir.*, Vol. 2, Nos. 1-2.

Tribenzoylgallic Acid.—A preparation under this name has been brought out, which is said to be prepared by agitating an alkaline solution of gallic acid with benzoyl chlorid and purifying the resulting product by recrystallization after exhausting with boiling water. The compound appears to remain unchanged by the secretions of the mouth, esophagus and stomach, but in the intestines is readily split up, gallic acid being reformed and exerting its specific properties.—*Druggists' Circular.*

Antivivisection in Germany.—Some years ago an antivivisection movement was started in Germany, and the government asked Virchow's opinion on the matter. He took the current textbook on physiology and marked with a blue pencil all the paragraphs in which it stated that the fact had been established by experimentation on animals, and sent the heavily marked book without a word of comment as his reply. The subject was dropped at once, and probably forever in that country.

Encysted Calculus.—Professor Guyon stated, in 1894, that he had never encountered an encysted calculus and doubted their existence, but Ortiz of Buenos Ayres, reports four cases in which he discovered an additional calculus encysted in the wall of the bladder, and observes that probably many others have been overlooked by surgeons in operating. It is difficult to differentiate such a calculus; the only guide is a lack of mobility, and palpitation during lithotomy.—*Anales del Circ. Méd. Argentino*, November.

Chinopyrin.—Chinopyrin is the name suggested by Santesson for a combination which is made by mixing three parts of quinin hydrochlorate, two parts of antipyrin and six parts of water, the mixture being then warmed. The disagreeable effects of quinin are mitigated by this form of exhibition; it is particularly suitable for subcutaneous injection in cases where administration per os was inadvisable. Its antipyretic powers, grain for grain, are somewhat less than those of quinin. The name quinopyrin has also been suggested for this combination. —*Deutsche Medicinische Wochenschrift.*

A Vitiated Policy.—In an action brought by a policy-holder for the recovery of $10,000 from a life-insurance company the justice of a New York court very rightly decided in favor of the defendant. The points of the case were that in the application dated November 15, 1895 the warrant was given that the health at that time was good and also that no physician had been consulted since the previous January. The further agreement was that the policy should take effect only in case of good health at the time of its delivery, which was Dec. 4, 1895. The evidence showed that physicians had been consulted within the limit restricted, that the diseases which caused death were of acknowledged gravity and that the policy was received on the death-bed. The party who held the policy died Dec. 4, 1895.

Section Work in the British Medical Association.—The differentiation of work in the British Association goes on. The number of sections that are to be provided for at the Edinburgh meeting next July will be sixteen. The subjects of anatomy and physiology have been assigned to separate sections; three other subjects, "Neurology," "Medicine in Relation to Life Assurance" and "Tropical Diseases," have grown to the stature that seems to demand separate sectional development. Our own great ASSOCIATION is at present able to get along with a fewer number of compartments, namely, twelve, in the hull of our own craft. What the next specialization will be by the British Medical Association is not easy to foresee.

Dr. Weir Mitchell's Novel.—The *Bookman* states that Dr. Mitchell's recent book "Hugh Wynne," is one of the most popular of those now on the current list. An amazing incident in connection with the book is a critique thereof that has appeared in *The Friends' Intelligencer*, a kind of organ of the Quakerdom of Philadelphia, and that has been separately printed in pamphlet form. While doing full justice to the literary merits of the book, the Quaker reviewer shows up a number of historic mistakes into which the author has fallen in regard to the Quakers of the Revolutionary period, their customs and discipline, together with misaprehensions as to the personal characters of several of the historic characters of the novel. The reviewer regards the novel as an unfavorable picture of the Friends of that period, and in a very gentle but none the less effective manner, exposes what he considers the Doctor's mistakes. If you happen to come across the review be sure to insert it in the copy of your novel, for it is worth preserving.

Reaction Time in Abnormal Conditions of the Nervous System.—Recent investigations in the Yale psychologic laboratory, made in cases of neuritis, locomotor ataxia, alcoholism and hysteria, are recorded in the *Medical Record* of February 5. The results go to show that: 1. Alcoholism shortens the simple reaction time, hysteria leaves it unchanged, and local neuritis, multiple neuritis and locomotor ataxia lengthen it. 2. Local neuritis scarcely lengthens the additional mental processes involved in complex reaction time; alcoholism lengthens them somewhat, while locomotor ataxia, multiple neuritis and hysteria double and triple the normal time. 3. The individual's regularity is much greater than normal in locomotor ataxia and alcoholism, and much less than the normal in the other diseases. The irregularity is specially marked in hysteria for the higher mental processes. 4. Subjects with multiple neuritis, locomotor ataxia and alcoholism are much more distinctly marked off in respect to the tests than normal individuals.

Insurance of Students in Germany Against Laboratory Accidents.—Since the beginning of the academic half-year all students attending the chemic and physical laboratories of the University of Heidelberg have been insured against accidents happening in the course of the lectures, of the laboratory work and of scientific excursions. The insurance premium is paid by the treasury of the University, which has also made a new regulation in connection with the subject requiring the students to pay a small sum in addition to the class fees. This step is surely deserving of imitation by other universities and such advantages ought not to be limited to laboratory work only, for medical students run much greater risk both in the dissecting rooms and as dressers in the surgical clinics, and as clerks in the infection wards of the university hospitals. This fact should be considered by the other universities in the event of their imitating the example of Heidelberg.

Selling Medicine for Trick Purposes an Assault and Battery.—A conviction of assault and battery, in the case of State vs. Monroe, of most peculiar character, was affirmed by the supreme court of North Carolina, Dec. 21, 1897. An individual, Will Horn, had administered to one Ernest Barrett a dose of croton

oil, and the oil had had an injurious effect on Barrett. This led to the prosecution of the defendant Monroe for assault and battery. Monroe admitted that he sold the oil to Horn, and at his request dropped it into a piece of candy, but denied that he knew that these parties were playing practical jokes on each other, and denied knowing for what purpose Horn wanted the oil. His guilt as a principal, not as an accessory, the court holds, depended upon whether he knew, or had reason to believe, that the dose was intended for Barrett or some other person as a trick, and not for medicinal purposes. Upon the whole evidence, he was found guilty. The instruction given the jury that if the defendant knew or had every reason to believe, and did believe, when he sold the oil, that it was intended for Barrett or some other person as a trick or joke, and not for a medicinal purpose, the defendant would be guilty of assault and battery; also that it was not necessary that it should be a poisonous or deadly dose; but that it was sufficient if it was an unusual dose, likely to produce serious injury, the supreme court pronounces unobjectionable, in point of law.

"Governor" Lutz.—Missouri has a governor who has apparently made it a point to antagonize the medical profession at every point, and some aggressive members of the St. Louis Medical Society have proposed that Dr. F. J. Lutz, the well known physician of St. Louis, shall take the place at the next election; Governor Lutz would honor the place.

The New Anatomy.—In a case reported by one of the New York dailies, "a fracture of the 'hypoid ball' in the victims' throat" is reported. It is to be hoped that the Eastern "General Reader" will not be led into his usual bootless search after novelties, notwithstanding the fact that the culprit may have been misguided by De Quincey's brochure, "On Murder Considered as a Fine Art." Chicago, for the present, is obliged to be content with a students' snow-ball fight in which the police were driven off with some few bruises and possibly with what Mark Twain designates as "rows of acrostics."

Hospital Having School Must Pay Duty.—In reply to a letter of inquiry from the superintendent of the Roosevelt Hospital of New York, Assistant Secretary of the Treasury W. B. Howell stated, January, 1898, that there is no provision of law under which scientific instruments, etc., can be imported free of duty for a hospital, although a school of instruction may be connected with such institution. Paragraph 638 of the act of July 24, 1897, provides for the free entry of philosophic and scientific apparatus, etc., when imported in good faith for the use and by order of any society or institution incorporated or established *solely* for religious, philosophic, educational, scientific or literary purposes, whereas, Mr. Howell declares, a hospital is not established *solely* for such purposes.

Primary Tuberculosis of the Nose.—The rarity of this affection makes a case reported in the *Laryngoscope* (February) of interest. The growth, slightly larger than a cherry, and irregular, was located on the cartilaginous septum, attached by a broad base, rather firm to the touch and not freely movable. Under cocain anesthesia the large part of the tumor was removed with a cold wire snare, and the remainder destroyed by the electro-cautery and concentrated solutions of lactic acid (beginning with a 40 per cent. and increasing to an 80 per cent. solution), with iodoform insufflations, were used. The diagnosis was confirmed by the microscope. The patient, after a year and a half, is absolutely well and presents a normal septum.

Serum Diagnosis of Yellow Fever.—In the *New Orleans Medical and Surgical Journal* (February) a series of 100 cases are given by Archinard and Woodson in which the agglutinative test was applied to the bacillus icteroides and controlled by its application to the bacillus typhosus. The authors claim that while their work has been along the lines laid down by Sanarelli, they have made various departures therefrom, not the least of which has been this application of Widal's method of serum diagnosis to the bacillus icteroides. The first fifty were taken from typic yellow fever cases, the second fifty being suspect blood and including cases of typhoid fever, malaria and yellow fever. The authors' conclusions are: 1. Our work demonstrates the practical value of serum diagnosis in yellow fever. 2. That it may be utilized as early as the second day, and be exceptionally present as late as nineteen years after the disease. 3. That a dilution of 1-40 with a time limit of one hour is to be preferred for accuracy of diagnosis. 4. That the dried blood method of Wyatt Johnston is perfectly satisfactory. 5. That the serum diagnosis of yellow fever should be instituted in all countries wherein the disease may exist endemically, or which may be occasionally visited by epidemics. 6. That it is exceptionally valuable at the beginning of epidemics in the diagnosis of early and doubtful cases.

Trained Nurses at the Health Exposition.—At New York's Health Exposition to be held for five weeks, beginning April 25. The most important single department, both from a popular and educational standpoint, will be the Trained Nurses Educational Exhibit, which will occupy one entire wing of 12,000 square feet on the second floor. The display here will comprise everything in modern hospital and sick room service, an historic collection representing the advance in medicine and surgical science during the century. There will be a sick room not only of the rich house with all expensive appliances in furnishings, but also a duplicate of the sick room in the house of the very poor. The manager of this department is Miss Mary E. Wadley of the Bellevue Post-Graduate School. Exhibits have already been secured from nearly all the hospitals in New York and Brooklyn, and the co-operation of all the nurses in the country is desired. During the first week of the Exposition, there will be a convention of the National Association of Trained Nurses at the Grand Central Palace. An attractive corner of the second floor will be occupied by the Domestic Science Department of the W. C. T. U. in charge of Miss Marion A. McBride of Boston. Here there will be noon-day talks on everything connected with this branch of the W. C. T. U. work, such as "Nutrition," "Cooking without Alcohol in the Home and Hospital", etc., and afternoon receptions and 5 o'clock teas daily.

Does Not Appreciate Some Fine Distinctions as to Expert Evidence.—It is laid down in the books that a question to an expert witness should not be so framed as to invade the province of the jury. With this for its text the supreme court of Minnesota says, in the case of Donnelly vs. St. Paul City Railway Company, December, 1897, that the line of cleavage between what does and what does not invade the province of the jury is not capable of definite location by any exact rule applicable to all cases without regard to the subject of inquiry. The mere fact that the opinion called for covers the very issue which the jury will have to pass upon is not conclusive that it is not the proper subject of expert or opinion evidence. For example, sanity or insanity is the subject of expert testimony, although that may be the sole issue to be determined by the jury. Continuing, the supreme court says that neither does it appreciate the fine distinctions sometimes sought to be drawn between asking an expert whether in his opinion, certain causes might produce certain results, and asking him whether, in his opinion, they did produce such results. It is well settled that the opinions of medical experts as to the cause of death are admissible, such opinions being founded either upon the personal knowledge of the facts in the case, or upon a statement of the nature of the injury or symptoms and nature of the disease as testified to by others. There can be no difference in principle, the supreme court further asserts, between an opinion as to the cause of death and one as to the cause of physical ailments which

have not resulted in death. So it holds that when the issue is whether the present bodily ailments of a party were caused by certain injuries, a medical expert may give an opinion as to the cause of such bodily ailments, founded upon a statement of the nature of the injury, the subsequent symptoms of the party and *his present physical* condition as testified by others.

Tuberculosis of the Bones and Joints.—In a report of observations on more than one hundred tubercular joints made by Nichols of the Sears Pathologic Laboratory of the Harvard Medical School (*Boston Med. and Surg. Journal*, January 27), the following conclusions are of interest: Injuries of moderate severity favor the production of the disease. In the bones the disease begins in the epiphysis, and is more extensive than appears on gross examination; hence, in operations for removal of the disease a considerable margin of apparently healthy bone must be removed. Tuberculosis of the joints is generally, if not always, secondary to tubercular disease in the epiphysis of an adjacent bone. Abscess formation is due to extension of the tubercular process to the soft parts; the contents and wall of the tubercular abscesses are different from those of infectious abscesses; partial removal of the abscess wall is harmful. Repair is caused by the formation of fibrous tissue, which replaces and partly encapsulates the tubercular tissue; repair may be incomplete; fibrous tissue may produce fibrous anchylosis, or the tissue may become ossified and lead to bony anchylosis. Paraplegia in Pott's disease is rarely due to direct bony pressure; usually the pressure is caused by tubercular peripachymeningitis; rarely the pressure causes degeneration of the cord.

Kocher's Method of Amputation of the Female Breast.—*Annals of Surgery* for February describes this method at length, as reported to the Section on Surgery of the College of Physicians of Philadelphia by George B. Wood, M.D. "The salient points of difference between this operation and the one mostly in vogue in America, that of Halsted, are: 1, the incisions are different; the axillary incision of Kocher's allowing a free entrance to the armpit, and not necessitating the loss of time required in dissecting back the triangular skin-flap of Halsted's operation. By Kocher the axilla is cleaned from above downward and inward toward the chest, while Halsted makes the dissection from within outward and upward. Here it is claimed for the Halsted operation that the removing of fascia in this direction is easier and attended with less hemorrhage. The vessels supplying the axilla begin above and run downward, and it is easier to dissect out a vessel from the base toward the periphery than in the other direction. . . . But where the operation of Kocher saves time as compared with that of Halsted, is in the removal of the pectoral muscles; it being much easier to strip these muscles downward and inward off the chest and then to cut through the origins than it is to dissect off each rib attachment separately, as is required where the pectoral muscles are removed upward and outward. Also, in the Kocher method no extra dissection of the pectoralis minor is required. By beginning as advised by Kocher the annoyance of having a large, loose mass of tumor, fat and muscle to take care of during the dissection of the axilla is avoided. Tke idea of sawing through the clavicle in case of involvement of the supraclavicular glands belongs to Kocher, and though it may seem to some unnecessary, it certainly gives a much better chance to dissect the lymphatics from around the vessels.

Washington.

REPORT OF THE HEALTH OFFICER.—The report of Health Officer Woodward for the week ended February 12, shows the total number of deaths during the week to have been 106, of which number 48 were white and 58 colored. Among the principal causes of death were: Diseases of the nervous system, 14; urinary, 9; circulatory, 7; respiratory, 26; 3 from la grippe, 1 from diphtheria; 3 from whooping cough and 1 from measles.

MICROSCOPIC SOCIETY.—At the recent meeting of the Microscopic Society, Dr. Robert Reyburn read a paper entitled "Bacteria," and gave the life, history and general description of most of the forms with which the pathologist has to deal. The paper was made more interesting by lantern-slide illustrations.

MEDICAL SOCIETY.—At a meeting of the Society held on the 14th inst., Dr. McLaughlin read a very valuable paper, entitled, "The Uric Acid Diathesis in its Relation to Skin Diseases." Dr. Lamb presented the following interesting specimens: pericarditis and pneumonia; ruptured Graafian Follicle from a Cow; teratological specimen.

PHYSICIANS RESIGN.—Four of the most prominent members of the attending staff of the Garfield Memorial Hospital have recently handed in their resignations, thus severing their connection with that institution. The physicians who resigned are: Samuel S. Adams, George N. Acker, James C. McGuire and Joseph H. Bryan. Some time ago, it will be remembered, W. W. Johnston severed his connection with the institution. These gentlemen for some time have disapproved of certain administrative methods of the hospital and recently discovered that some of the lay hospital authorities were clandestinely offering their positions to other physicians in the District. To the credit of the physicians, it may be stated that some declined absolutely to succeed these gentlemen, under the circumstances. There has always been trouble in this institution between the medical men and the laymen on the board, because of the domination of the latter over the physicians, in purely medical questions. It is high time that the profession of the District of Columbia should discipline this institution and demand the respect due the medical men on their board and staff. These gentlemen who have resigned are well known to the profession of this country and an unbiased mind can readily appreciate the loss to the institution resulting from their resignations.

CENTRAL DISPENSARY AND EMERGENCY HOSPITAL.—The report of the Central Dispensary and Emergency Hospital for the past month shows the total number of new cases to be 553; total visits, 1869; emergency cases, 292; house cases, 38; deaths, 6; ambulance calls, 44; prescriptions, 2438.

SANITARY NEEDS OF INSTITUTIONS.—Health Officer Woodward has submitted to Chairman McMillan, of the Senate District Committee, a statement of the sanitary conditions of a number of charitable institutions in the District. Dr. Woodward suggests many changes and improvements and points out many preventable defects which need prompt relief. Chief among these may be mentioned, defective buildings, overcrowding, defective plumbing, deficient bath accommodations, defective light, heating and ventilation and lack of isolating accommodations for contagious diseases.

THE TELEPHONE WAR.—The physicians of the District have joined in the general sentiment against the overcharge, poor service and eves-dropping methods with respect to messages, which are now in vogue by the local telephone company. A large and enthusiastic meeting was held on the 17th inst., at the Medical Association rooms, which resulted in the passage of resolutions denunciatory of the telephone grievance, and the appointing of a special committee to wait upon the Telephone Company for the purpose of securing better service, unlimited use and secrecy in regard to medical messages passing through their central office. The committee consists of Drs. G. Wythe Cook, H. P. Thompson and H. L. E. Johnson.

WASHINGTON OBSTETRICAL AND GYNECOLOGICAL SOCIETY.—The 276th meeting of the Washington Obstetrical and Gynecological Society was held at the residence of Dr. Kelly, No. 1312 15th st., N. W. Dr. E. A. Ballock presented a very interesting paper on "Adenoma of the Breast," which was fully and freely discussed by the members present.

Detroit.

THE REGULAR MEETING of the Wayne County Medical Society was held February 17. Dr. W. F. Metcalf read an interesting paper on "Office Treatment of Gynecic Cases." The Doctor discussed the subject in a general way, giving the most important conditions and symptoms which are found necessary to treat in regular office practice. Dr. Hal. C. Wyman followed with a paper on "A Wound of the Pericardium and Pleura Treated by Suture; Recovery." The Doctor stated in his paper that some ten days previously he had been called to a town in the interior of the State to treat a man who had been wounded in the chest by the bursting of a saw. He found the man lying on his back with a pulse of 140, respiration 56. On examining the man's chest he found a large gaping wound in its wall through which the heart projected at each respiratory movement. The rent included both the pleura and pericardium. Pushing the apex of the heart back into its normal position, the Doctor grasped the torn edges of the pericardium and sutured with catgut. The pleura was then closed and the chest wall hermetically sealed without drainage. The patient's condition at once improved and he is now convalescent. Dr. W. H. Poole presented the report of a very interesting case of rhinolith, which had by its presence in the middle meatus of the left naris produced symptoms of stenosis of the tear-duct of that side.

AT A RECENT meeting of the Board of Health the resignation of Dr. Samuel Duffield as health officer of the city was accepted, and Dr. Heneage Gibbs of Ann Arbor elected as his successor. This action of the Board has the approval of the majority of the profession in Detroit, as Dr. Gibbs is highly esteemed for his distinguished learning and ability.

Denver.

HOW MAY THE MORTALITY IN APPENDICITIS BE DIMINISHED?

Dr. Charles A. Powers opened the scientific program by the reading of a paper on the above subject, in which he has given the histories of fifteen cases of acute appendicitis seen by him during the past four months. He classified them as follows: 1. Cases which had developed general suppurative peritonitis when first seen, five. 2. Cases of local appendicitis ten. Five cases in the latter class were submitted to operation, all recovered. In the remaining five cases he had advised against operation, and all of these recovered. Of the five cases of general peritonitis operative interference offered absolutely no chance of recovery. Each of these died. Of the complications met during the operation one deserves particular notice. On operation the whole right side of the abdomen was found to be the seat of old, dense adhesions; the appendix lay in the pelvis; it was long, large and gangrenous and densely adherent to all the tissues about it. On digging it out with the finger a gush of straw-colored fluid came; this fluid was urine. He at once packed the wound with gauze and opened the abdomen in the mid-line and examined the bladder, which was intact. After ligation of the appendix the entire wound was freely packed with iodoform gauze, a glass tube being inserted to the pelvis and another at the upper part of the wound behind the colon. Through these channels the urine found ready egress. The fistula closed at about the sixth day, after which the patient went on to complete recovery. Dr. Powers has no sympathy with the extremists who cry loudly for operation in every case. "We must base our decision," he said, "for or against operation on the evidences taken as a whole." Timely operation is safer than delay, and in doubtful cases an exploratory incision will be attended with less danger than will delay. Dr. P. D. Rothwell gave the histories of several cases in which the symptoms indicated appendicitis but the diagnosis of impacted feces was corroborated by emptying the colon. He favors flaxseed poultices, laxatives and purgatives. Dr. Whitney said that 80 per cent. of all cases of appendicitis recover of themselves. He classified appendicitis into cases: 1, which come abruptly and manifest general infection; 2, localized appendicitis with severe symptoms; 3, mild cases, and 4, cases which begin mildly and rapidly develop alarming symptoms.

Dr. Sewall said he is interested in the prophylaxis of appendicitis which alone could diminish the mortality. The appendix is an organ of low vitality and can not withstand any insults. Impaction is the prime cause.

Dr. Bonney said the majority of cases he had treated were mild. The surgeon he thinks should be called in early. He related a case of a woman 30 years old who presented all the symptoms of appendicitis, and in which the consent for operative interference could not be obtained. On the fifth day convalescence set in. On the tenth day she developed a chill, pain in cardiac region, pericarditis, pleurisy and then pneumonia and lastly nephritis with fatal termination. Probably the appendicitis preceding had much to do with the course of the succeeding phenomena. Dr. Leavitt called attention to the need of an early consultation in cases of appendicitis.

Dr. Hershey said he believed in preventive measures, and believes that in the majority of cases an acute or chronic enteritis can be traced to have been the cause. He thinks that cases requiring surgical interference are very few indeed. Dr. Freeman said his rule is that if within forty-eight hours the symptoms do not tend to increase in severity he treats it expectantly. All cases starting with violence, he operates at once. He does not operate on cases seen on the fourth or fifth day, but waits until the seventh because of the adhesions that are being formed during that period, and which are the barriers nature throws out. If the appendix forms part of the abscess he lets it alone. Patients having suffered from repeated attacks of appendicitis, and who live outside the reach of a surgeon he advises an operation between the attacks. Dr. Rogers referred in his remarks to the great injustice done by the daily papers to the cause of surgery in general and appendicitis in particular. The cases that recover are not reported, but fatal cases receive a write-up, especially if the patient happens to be prominent in the walks of life. He mentioned a certain town where the physicians dare not operate on appendicitis. If they did, it would be at the risk of their lives. Dr. Grant recommended very early operation, and believes that should all operations be performed the first twenty-four hours the statistics would show different figures. Dr. Lobingier also favors early operation; urged the advisability of consultation with surgeons. Reported a case of a woman who was operated on twenty-seven hours after the initial symptoms. Pus was found in abdominal cavity, but the patient recovered. Dr. Nichols took exception to Dr. Freeman's views. Under no circumstances does he leave the appendix in the abdomen. Dr. Wetherill made an analogy between the appendix and Fallopian tubes. The successful cases he thinks are due in a great measure to the skill and dexterity of the operator, and a general surgeon can not expect the results obtained by a Joseph Price or John B. Deaver.

Letters were read from Senators Wolcott and Teller in answers to resolutions passed at its last meeting, protesting against the passage of the bill for further protection of cruelty to animals in the District of Columbia. Both Senators express their willingness to interpose the passage of the bill.

RESOLUTIONS ON VIVISECTION PASSED AT THE STOCK GROWERS' CONVENTION.—At the convention of the national stock growers held recently in this city, the following resolution was unanimously adopted:

WHEREAS, Viewing with alarm that a bill before the present Congress, known as the anti-vivisection bill, purporting to be antagonistic with scientific methods used in placing knowledge in the minds of scientists, for the protection of live stock and prevention of the spread of disease which can alone be acquired by scientific methods; be it

Resolved, That we, the representatives of the live stock interests of the United States, in convention assembled in Denver, Colo., under the call of a national convention of live-stock

men for the purposes of protection of the industries we represent, call upon the Congressmen and Senators of the State here represented to cast their vote against any measure that will prevent scientific research to be continued in the interests of the animal kingdom.

From the further fact that immediate action is about to be taken on the above bill, it is further resolved that the secretary of this convention be requested to convey this resolution to the Congressmen and Senators of the States at interest at once.

MEAT FROZEN FOUR YEARS AGO.—Whether there are such epicureans who will relish viands four years old is a matter for gastronomes to decide. Our health commissioner, without waiting for a decision from the connoisseurs, has seized and destroyed 40,000 pounds of such venerable article. It is said that the killing was done in Omaha, Neb., in 1894, frozen and hung in a refrigerator, and the dealers waited for a favorable opportunity to feed with it some community which does not know of its antecedents.

NEXT MEETING OF THE AMERICAN MEDICAL ASSOCIATION, JUNE 7 to 10, 1898.—At a recent meeting of the Committee of Arrangements the following has been reported: The medical profession of the city have subscribed the amount of $6000. The Committee on Meetings reported that the Gulf Railroad has published 20,000 copies of a pamphlet entitled "Colorado, About its Climate." The Committee on Hotels has gotten out an attractive leaflet giving the hotels and principal boarding-houses of the city. The Committee on Souvenir Book reported they have in preparation an exceedingly attractive souvenir volume, profusely illustrated, giving information on every imaginable subject of interest in the State, as well as a map of the State and city. It is confidently expected that the railroads will furnish an excursion "over the loop" and to Colorado Springs and Manitou, and that half rates will be charged for transportation and a time limit on all railroad tickets, of thirty days from the date of arrival.

Hospitals.

ACCORDING to the "Thirteenth Annual Report of the New York Post-Graduate Hospital" from Oct. 1, 1896, to Oct. 1, 1897, 2303 house patients were treated. Of these 823 were babies. In the dispensary 19,017 patients were treated, to which 65,536 visits were made. Of 116 cases investigated as to their being eligible to charity treatment 52 were found deserving, 20 gave fictitious addresses and 44 were turned away. Of the 2303 cases 1326 were treated absolutely without fee, 527 on partial payment and 550 were pay patients.

THE MARYLAND HOSPITAL FOR THE INSANE reports Oct. 31, 1897, during the year the number treated was 610. Forty-three patients died and fifty-three were discharged. The percentage of recoveries of the number treated was 6 per cent. Eliminating those cases of over a year's duration, the recoveries were 80 per cent.

Societies.

The following recent meetings are noted:

Alabama.—Cullman County Medical Society, Cullman, February 7.

California.—Pasadena Medical Society, February 10.

Connecticut.—Hartford Medical Society, February 7.

Illinois.—McDonough County Medical Association, Macomb, February 7.

Indiana.—Johnson County Medical Society, Franklin, February 10.

Iowa.—Southwestern Iowa Medical Society, Creston, February 17.

Massachusetts.—Boston Medical Society, February 14.

Missouri.—Academy of Medicine, Kansas City, February 12; City Hospital Medical Society, St. Louis, February 17; St. Louis Medical Society of Missouri, February 19.

Nebraska.—Lincoln Medical Society, February 8.

New Jersey.—Atlantic Academy of Medicine, February 11.

New York.—Albany County Medical Society, February 16; Binghamton Academy of Medicine, February 15; Jenkins Medical Society of Mount Vernon, February 10; Rensselaer County Medical Society, Troy, February 8.

Ohio.—Delaware County Medical Society, Delaware, February 15; Jackson County Medical Society, Wellston, February 8; Muskingum County Medical Society, Zanesville, February 10.

Pennsylvania.—Delaware County Medical Society, Chester, February 10; Lackawanna County Medical Society, Scranton, February 10.

Tennessee.—Smith County Medical Society, Carthage, February 7; White County Medical Society, Sparta, February 10.

Texas.—Hunt County Medical Association, Greenville, February 7.

CHANGE OF ADDRESS.

Bovinine Co., The, from 495 W. Broadway to 75 W. Houston St., New York, N. Y.
Bennett, Alice, from Wrentham, Mass., to Biltmore, N. C.
Blech, G., from Detroit, Mich., to 6236 Sangamon St., Chicago.
Cockey, M. G., from Topeka, to Belvue, Kan.
Herrick, A. B., from Lisbon, N. D., to Santa Rosa, Cal.
Holmes, C. R., from 84 N. 7th to 8 E. 8th St., Cincinnati, Ohio.
Hill, F. E., from 10 W. 9th to 28 E. 9th St., Cincinnati, Ohio.
Norman, J. B., from Hume to Pilot Grove, Mo.
Olsen, A. B., from Chicago to Battle Creek, Mich.
Pomeroy, H. M., from New York, N. Y., to San Diego, Cal.
Sattler, R., from 64 W. 7th St. to Groton Bldg., Cincinnati, Ohio.
Thompson, J. H., from 31 Times Bldg. to 403 Deardorf Bldg., Kansas City, Mo.
Wandless, H. W., from Dallas, Texas, to 272 Madison Ave., New York.
Zinke, E. G., from 413 Elm St. to 13 Garfield Pl., Cincinnati, Ohio.

LETTERS RECEIVED.

Akins, William T., Chicago.
Berry, J. T. B., Brandon, Miss.; Baker, L. B., Erie, Pa.; Brown, R. A., Cotton Plant, Ark.; Brown, Mark A., Cincinnati, Ohio; Blackburn, M. H., Dover, Ill.; Bernays, A. C., St. Louis, Mo.; Baldy, J. M., Philadelphia, Pa.; Brannon, L., Joliet, Ill.
Cronica Medica Mexicana, Mexico City, Mexico; Cleveland Medical Gazette, The, Cleveland, Ohio; Cutter, J. A., New York, N. Y.
Doolittle, George T., Spokane, Wash.
Elliott, H. G., New York, N. Y.; Elliott, A. R., New York, N. Y.
Fairbairn & Sons (Ltd.), Edinburgh, Scotland.; Floyd, R. G., Eureka Springs, Ark.; Fry, Frank R., St. Louis, Mo.
Galloway, D. H., Chicago.
Hayden, A. M., Evansville, Ind.; Hughes, C. H., St. Louis, Mo.; Hoag & Curtis, Springport, Mich.; Helgeson, P. A., Lake Mills, Iowa; Hummel, A. L., Advertising Agency, New York, N. Y.; Herrick, A. B., San Francisco, Cal.
Johnson & Johnson, New Brunswick, N. J.; Johnson, H. P., Long Prairie, Minn.; Jonas, A. F., Omaha, Neb.
Keyser, John, Cincinnati, Ohio; Knott, Van Buren, Sioux City, Iowa; Knopp, C. P., Wyoming, Pa.
Lewis, J. Harry, Kansas City, Mo.; Lewis, LeRoy, Auburn, N. Y.; Lerch, Otto, New Orleans, La.; Lyle, B. F., Cincinnati, Ohio.
Merck & Co., New York, N. Y.; Milliken, John T. & Co., St. Louis, Mo.; Malt-Diastase Co., New York, N. Y.; Mortimer, Dr., St. Louis, Mo.; Meisenbach, A. H., St. Louis, Mo.; Mills, H. B., Philadelphia, Pa.; Medico-Chirurgical Journal, Bristol, England; Manley, Thomas H., New York, N. Y.
Pneumochemic Co., The., Cincinnati, Ohio; Phelan, H., San Francisco, Cal.; Pomeroy, H. M., San Diego, Cal.; Preston, C. H., Davenport, Iowa; Parmele, Charles Roome, New York, N. Y.; Proctor & Collier Co. Cincinnati, Ohio; Pilling, George P. & Son (2), Philadelphia, Pa.
Shoemaker, F., Fort Sill, O. T.; Schering & Glatz, New York, N. Y.; Sternberg, George M., Washington, D. C.; Sefton, Frederick, Auburn, N. Y.; Small, Sidney I., Saginaw, W.S., Mich.; Skinner, Calvin, Malone, N. Y.; Stokes, William R., Baltimore, Md.
Tiemann, George, & Co., New York, N. Y.
Wabash Railroad Company, Chicago; Wiggin, O. C., Kingston, R. I.; Wilde, Julia Cabot, New York, N. Y.; Wilson, R. H., St. Louis, Mo.; White Rock Mineral Spring Co., Waukesha, Wis.; Woman's Medical College, New York Infirmary for Women and Children, New York, N. Y.

THE PUBLIC SERVICES.

Army Changes. Official List of Changes in the Stations and duties of officers serving in the Medical Department, U. S. Army, from February 12 to 18, 1898.

Capt. Paul F. Straub, Asst. Surgeon, is relieved from duty at Angel Island, Cal., and ordered to report in person to the commanding General, Dept. of the Columbia, without delay, for assignment to duty.

First Lieut. Carl R. Darnall, Asst. Surgeon, is relieved from duty at Ft. Clark, Texas, and ordered to Ft. McIntosh, Texas, for duty at that post, relieving Capt. Frederick P. Reynolds, Asst. Surgeon. Capt. Reynolds, on being thus relieved, is ordered to Vancouver Bks., Washington, for duty at that post.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending February 19, 1898.

Asst. Surgeon G. C. Hubbard, sent to St. Elizabeth's Governmennt Hospital for the Insane.

Asst. Surgeon J. C. Thompson, detached from the naval hospital, Mare Island, Cal., and ordered at once to the "Mohican."

P. A. Surgeon L. H. Stone, ordered to be examined for retirement February 4 and to wait orders.

P. A. Surgeon B. R. Ward, upon completion of temporary duty in New York to proceed home and await orders.

Medical Inspector J. G. Ayers, ordered to assume charge of hospital on Widow's Island in addition to present duties.

Asst. Surgeon H. H. Haas, ordered to the "Vermont."

Surgeon A. C. H. Russell, ordered to duty in the bureau of medicine and surgery February 9.

Asst. Surgeon G. C. Hubbard, ordered home and granted three months' sick leave.